Field Verification of the Piscassic and Lower Lamprey River Watersheds Wildlife Habitat GIS Modeling Study

Prepared for:
The New Hampshire Estuaries Project

Laura Demming photo

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New Hampshire Estuaries Project

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Executive Summary

GIS derived habitat models for 18 species (five reptiles and amphibians, twelve birds, and one mammal) were evaluated to determine how successful they were at identifying habitat for those species. Because of the time associated with determining presence/absence of reptiles and amphibians, incidental wildlife observations were used to evaluate the habitat models for those species. However, the models could not be adequately evaluated using this method because few incidental wildlife observations occurred in the study area. Model success for the remaining species was evaluated using wildlife surveys, quantitative habitat surveys, and/or general habitat descriptions. Model success for these species varied considerably (25-80%; Table 1).

The American woodcock and Blue-winged and Golden-winged models were the most successful at identifying suitable habitat (80% and 71%, respectively), while the New England cottontail and Whip-poor-will models performed the poorest (26% and 25%, respectively). Although the success of the grassland bird model was not very high (33%), most of the areas identified by that model have the potential for suitable habitat if managed or restored. Many of these areas were active agriculture fields that could be easily managed to provide suitable grassland habitat.

Other models performed poorly because of a lack of understanding of habitat needs (Whip-poor-will and wetland birds), or because insufficient GIS data were available (New England cottontails). Even so, the habitat models resulted in the identification of 15 habitat patches that should be considered for conservation (6 for American woodcock, 3 for Blue-winged and Golden-winged warblers, 4 for grassland birds, and 2 for New England cottontail: Appendix B). Conservation organizations, agencies, and towns working in the study area should consider these areas when identifying their priorities for conservation.

Acknowledgements

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We would also like to thank each of the landowners who granted us access to their property to carry out the field verification of the models as well as the following partners and volunteers who spent countless hours conducting wildlife and vegetation surveys: David Blezard, Jason Briggaman, Chris Clinansmith, Laura Deming, John Litvaitis, Michael Marchand, Sean Maxwell, Matt Oberkrieser, Fred Pinch, Mathew Ross, Ellen Snyder, Jay Sullivan, Rachel Stevens, Matt Tarr, Tracy Tarr, Greg Tillman, Ian Trefry and Srini Vasan.

Table 1. GIS habitat model success rates for thirteen wildlife species addressed by Sundquist (2002).

Species	# suitable patches	# patches field verified	% success
American woodcock	12	15	80
Whip-poor-will*	3	12	25
Blue-winged & Golden-winged warbler	5	7	71
Amercan bittern	7	14	50
Least bittern	5	14	36
Sora	6	14	43
Common moorhen	6	14	43
Pied-billed grebe	0	14	0
Sedge wren	6	14	43
Grasshopper sparrow & Upland sandpiper	2	6	33
New England cottontail	4	18	22

* Whip-poor-will success is not conclusive given a lack of information on habitat requirements to compare to collected field data.

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Introduction/Background

In 2002, the New Hampshire Estuaries Project (NHEP) provided funding to The Nature Conservancy of New Hampshire (TNC) to coordinate the identification and protection of significant wildlife and plant habitats in coastal New Hampshire to support the NHEP goal of maintaining "habitats of sufficient size and quality to support populations of naturally occurring plants, animals, and communities" within the NHEP focus area (NHEP 2000). Over the past two years, TNC has coordinated with the Audubon Society of New Hampshire (ASNH) and the Nongame & Endangered Wildlife Program (Nongame Program) at the New Hampshire Fish & Game Department to complete field surveys in a variety of locations within the Seacoast region. In 2002, TNC also contracted with the Society for the Protection of New Hampshire's Forests (Forest Society) to coordinate the development and implementation of GIS-based predictive habitat models for the Piscassic, Lower Lamprey, and Middle Lamprey river watersheds (Sundquist 2002).

This approach attempted to develop an efficient and systematic approach to identifying potentially significant habitats for 25 species of concern by identifying their habitat requirements from a review of literature and interviews with experts (Table 2). Identified habitat requirements were then compared to available GIS data layer attributes to determine which combination of attributes would best emulate habitat components. Many of the species of concern required habitat in an early-successional stage (e.g., grassland, shrubland, etc.). However, current GIS data was insufficient at indicating where these conditions existed. As such, the Forest Society delineated early-successional habitats via aerial photo interpretation and converted the information to a GIS data layer to be used in the analysis.

GIS habitat models were developed for 21 of the 25 species of concern. GIS data was lacking to adequately model four species (Brook floater mussel, American brook lamprey, Marbled salamander, and Blue-spotted/Jefferson's salamanders) and data would not have been easily obtained through aerial photo interpretation or other means. Therefore, models were not developed for these species.

This report summarizes the results of field validation efforts for 18 of the 21 habitat models. The Nongame Program completed field validation of the GIS habitat models with assistance from ASNH, the University of New Hampshire Cooperative Extension, and a variety of volunteers. Generally, field validation incorporated a combination of using incidental wildlife observations, wildlife surveys (to determine presence/absence of species of concern), quantitative vegetation surveys (which were compared to values identified in professional literature), and habitat patch descriptions.

Table 2. Species of concern addressed by the Sundquist (2002) GIS habitat modeling analysis.

Mollusks*	Brook floater mussel
Fish*	American brook lamprey
Amphibians*	Marbled salamander Blue-spotted/Jefferson's salamander
Reptiles	Blanding's turtle Spotted turtle Wood turtle Eastern hognose snake Black racer snake
Birds	Pied-billed grebe & Common moorhen American bittern, Least bittern, & Sora Sedge wren Grasshopper sparrow Blue-winged warbler Golden-winged warbler Red-shouldered hawk Osprey Upland sandpiper Whip-poor-will American woodcock
Mammals	New England cottontail Bobcat

* GIS habitat models not developed for these species.

Project Goals and Objectives

The goal of this project was to determine the accuracy of the habitat models developed to identify areas of suitable habitat for a selected list of special concern species within the study area (Sundquist 2002). As such, our objectives were:

1) to select predicted patches with the highest potential to provide suitable habitat for the selected species;
2) to assess the habitat quality of the selected habitat patches based on existing observational data, wildlife surveys designed to detect presence/absence, and/or habitat surveys and general descriptions.

Selecting Habitat Patches for Field Verification

Numerous potential habitat patches were identified via the analysis outlined in Sundquist (2002). For this project only those patches with the highest potential to provide suitable habitat were field verified. Patches with the highest potential were selected using the criteria outlined below.

Reptiles & Amphibians

Blanding's turtle

Forty-eight (48) potential habitat patches were identified using the following criteria:

1) Habitat co-occurrence values $\geq$ 5 out of a possible 12
2) Habitat patch area = 1.7 ha (the smallest home range area reported in the literature; Rowe and Mall 1987 as cited in Hall and Hammerson 2002).

Wood turtle

Fifteen (15) potential habitat patches were identified using the following criteria:

1) Habitat co-occurrence values $\geq$ 8 out of a possible 16
2) Habitat patch area = 2.55 ha (the smallest home range area reported in the literature; Kaufman 1995 as cited in Hall and Hammerson 2001a).

Spotted turtle

Thirty-eight (38) potential habitat patches were identified using the following criteria:

1) Habitat co-occurrence values $\geq$ 7 out of a possible 13
2) Habitat patch area = 1.3 ha (the smallest home range area reported in the literature; Lewis and Faulhaber 1999 as cited in Hammerson 2001b).

Black racer

Thirty-three (33) potential habitat patches were identified using the following criteria:

1) Habitat patch = 25 ha

Because only two habitat features were used to develop this habitat model (max co-occurrence value = 2), no patches were eliminated based on co-occurrence value.

Twenty-five ha was chosen as the minimum habitat patch size because the limited amount of home range data available suggest that 25 ha is a typical home range size of colubrid snakes (Hammerson 2001c).

Eastern hognose

One hundred seventeen (117) potential habitat patches were identified using the following criteria:

1) Habitat patch = 25 ha

Because only two habitat features were used to develop this habitat model (max co-occurrence value = 2), no patches were eliminated based on co-occurrence value. Twenty-five ha was chosen as the minimum habitat patch size because the limited amount of home range data available suggest that 25 ha is a typical home range size of colubrid snakes (Hammerson 2001c).

Birds

American woodcock

Sixteen (16) potential habitat patches were selected for field verification using the following criteria:

1) Habitat co-occurrence values $\geq$ 7 out of a possible 13
2) Habitat patch area > 2 ha

American woodcock will use roost sites from 0.6 to 8 ha in size (Dunford and Owen 1973), but Keppie and Whiting, Jr. (1994) argue that roost sites should be at least 1.2 ha in size. Two ha was chosen as a suitable size in this study to reduce the field verification sample size to a feasible number given time and labor constraints. Additionally, the larger size makes the patch more likely to host a viable population and will reduce the risk of predation (Wilcove 1985, Robinson and Wilcove 1994, Brown and Litvaitis 1995, Oehler and Litvaitis 1996).

Whip-poor-will

Sixteen (16) habitat patches were selected for field verification using the following criteria:

1) Habitat co-occurrence values $\geq$ 5 out of a possible 7
2) Habitat patch area $\geq$ 3 ha

Little is known about the habitat patch size requirements for whip-poor-will. At least one study used 12 ha as a minimum patch size (USFWS 2002). Areas with a patch size of at least 3 ha were chosen to reduce the field verification sample size to a feasible number given time and labor constraints.

Blue-winged and Golden-winged warblers

The habitat modeling analysis (Sundquist 2002) produced similar results for these two species. As such, their maps were combined for the field verification effort. Nineteen (19) habitat patches were selected for field verification using the following criteria:

1) Blue-winged warbler habitat co-occurrence values = 5 out of a possible 7
2) Golden-winged warbler habitat co-occurrence values = 3 out of a possible 4
3) Habitat patch area = 4 ha

Confer and Knapp (1981) suggested that Blue-winged warbler and Golden-winged warbler territories are typically located in tracts of suitable habitat that range from 10-50 ha in size. However, using 10 ha as a minimum patch size would have substantially reduced the number of patches chosen for field verification. Four ha provided a feasible number for field verification given time and labor constraints.

Wetland birds

The habitat modeling analysis (Sundquist 2002) produced similar results for all wetland birds (i.e., American and Least bittern, Sora, Pied-billed grebe, Common moorhen, and Sedge wren). As such, their maps were combined for the field verification effort. Seventeen (17) habitat patches were selected for field verification using the following criteria:

1) American bittern, Least bittern and Sora habitat co-occurrence values $\geq$ 4 out of a possible 7
2) Pied-billed grebe and Common moorhen habitat co-occurrence values $\geq$ 4 out of a possible 6
3) Sedge wren habitat co-occurrence values $\geq$ 6 out of a possible 11
4) Habitat patch area $\geq$ 2 ha

Depending on the species, wetland birds use habitat patches ranging from 0.8 – 36+ ha (Brown and Dinsmore 1986, Hanowski and Niemi 1986, Gibbs and Melvin 1990, Gibbs et al. 1991, Gibbs and Melvin 1992, Daub 1993, Herkert 1994). Two ha was chosen as a suitable size in this study to reduce the field verification sample size to a feasible number given time and labor constraints. Additionally, the size makes the patch more likely to host a viable population and will reduce the risk of predation (Wilcove 1985, Robinson and Wilcove 1994, Brown and Litvaitis 1995, Oehler and Litvaitis 1996).

Grassland birds

Grasshopper sparrows and Upland sandpipers utilize similar habitats (Wiens 1969, Bock and Webb 1984, Whitmore 1981, Sample 1989, van den Driessche et al. 1994). Therefore, their maps were combined for the field verification effort. Nine (9) habitat patches were selected for field verification using the following criteria:

1) Grasshopper sparrow habitat co-occurrence values $\geq$ 5 out of a possible 7
2) Upland sandpiper habitat co-occurrence values $\geq$ 3 out of a possible 5
3) Habitat patch area $\geq$ 26 ha

Minimum patch size for Grasshopper sparrows and Upland sandpipers is 10 ha with the optimum patch size being 100 ha (Samson 1980, Vickery et al. 1994, Herkert 1991, Herkert et al. 1993, DeGraaf and Rappole 1995). Twenty-six ha was chosen as a suitable size in this study to reduce the field verification sample size to a feasible number given time and labor constraints.

Mammals

New England cottontail

Nineteen (19) habitat patches were selected for field verification using the following criteria:

1. Habitat co-occurrence value $\geq$ 3 out of a possible 13
2. Habitat patch area > 1.6 ha.

Studies have indicated that New England cottontails are rarely located in habitat patches < 2 ha and are more prone to predation in smaller patches (Barbour and Litvaitis 1993, Brown and Litvaitis 1995, Villafuerte et al. 1997).

Although predictive habitat maps were produced for Red-shouldered hawk, Osprey, and Bobcat their habitat models were not field verified. Red-shouldered hawk and Osprey patches were not field verified because of time and labor constraints. Two patches were identified as being potential habitat for Osprey and approximately nine for Red-shouldered hawk. Efforts will be made to complete wildlife surveys at these areas during spring/summer 2004 using the protocol outlined in Kennedy and Stahlecker (1993).

More than 50 potential habitat patches were identified for Bobcat. This is a widespread species with a large home range. For example, one study in Pennsylvania found the median home range of female bobcats to be 16 km^2, whereas that of male bobcats was 42 km^2 (Lovallo 2000). Given the number of potential habitat patches and the size of the species' home range, it will be problematic to field verify this model.

Field Verification Methods

Field verification to evaluate the accuracy of the Sundquist (2002) habitat models generally incorporated a three-step process:

1) Conduct wildlife surveys to determine presence/absence of targeted species.
2) Conduct quantitative habitat surveys to evaluate habitat suitability.
3) Describe the habitat within the predicted patch using generalized habitat categories.

Observation of a wildlife species in a predicted patch during a wildlife survey provides good evidence that a predicted patch is suitable for that species. However, the absence of a species during a wildlife survey does not necessarily preclude that patch from being suitable. Standardized wildlife survey protocols allow a surveyor to observe for a very short period of time relative to the breeding season for the species addressed in this study (see Wildlife Survey methods section). As such, a lack of wildlife observations in any of the selected habitat patches doesn't provide conclusive evidence that the habitat in those patches is inadequate. Therefore, to further assess the suitability of the habitat patches, quantitative habitat surveys were conducted and the results compared to known habitat requirements for the species (see Quantitative Vegetation Survey methods section). However, quantitative habitat surveys only took place at the survey points utilized for wildlife surveys and won't necessarily reflect the quality of the habitat throughout the entire patch. Thus, predicted habitat patches were also described in general terms using standardized landcover and vegetation structure classifications (see Habitat Patch Description methods section). A combination of all of these data was used to determine the accuracy of the Sundquist (2002) habitat models.

Wildlife Surveys

Reptiles and amphibians

The most common, efficient, and useful technique to determine presence/absence of amphibians and reptiles is a time-constraint search in which observers spend a set amount of time in a study area to search for the species of interest (Corn and Bury 1990). However, the amount of time needed to conduct such a survey is considerable. Corn and Bury (1990) suggest 6-8 hours per study area to determine presence/absence of frogs, salamanders, and snakes. Considerably more time could be required to adequately determine presence/absence of turtles, especially rare turtles (Marchand pers. comm.).

Because of the time intensity needed to conduct these surveys and the rarity of the species sought (therefore decreasing the probability of detection), Wood turtles, Blanding's turtles, Black racer snakes, and Eastern hognose snakes were not surveyed to evaluate the effectiveness of the habitat models. Instead, Reptile and Amphibian Reporting Program (RAARP) data were overlaid atop the predictive habitat maps to determine their accuracy. RAARP is a tool designed to assist the Nongame and

Endangered Wildlife Program in tracking the status of reptiles and amphibians throughout the state over time. Observations of reptiles and amphibians are solicited and collected from volunteer observers and input into a database. RAARP has been operational since 1993.

A search was conducted in the RAARP database for observations of those species included in this study. Since many of the observations were located on or near roads and these animals are known to disperse long distances, all records that were found for the study were buffered by the maximum daily dispersal distance found in the literature (Table 3) and overlaid atop the predictive habitat map for that species to determine if predicted habitat occurred within the designated buffer.

Table 3. Maximum dispersal distance recorded in the literature for the reptiles and amphibians addressed in this study.

Species	Max. Dispersal Distance	Study
Blanding's turtle	2,050 m	Joyal (1996)
Wood turtle	600 m	Compton (1999) Kaufman (1992)
Spotted turtle	1,150 m	Joyal (1996)
Black racer	1,000 m	Hammerson (2001c)
Eastern hognose	1,000 m	Hammerson (2001c)

Birds

American woodcock, Blue-winged warblers and Golden-winged warblers

American woodcock, Blue-winged warblers and Golden-winged warblers were surveyed using 10-minute point counts. Survey points were predetermined using Arc-view GIS and spaced at least 200 m apart within each selected habitat patch to decrease the likelihood of double counting birds.

Observers used GPS units to navigate to each survey point and conducted up to two replicates, which were spaced at least five days apart during April 25 - May 15, 2003 (woodcock) or June 1-30, 2003 (warblers). If targeted birds were recorded during the first survey replicate, a second replicate was not completed. Surveys were completed using Breeding Bird Survey (BBS) acceptable weather guidelines (USGS & CWS 1998). Point counts for warblers began no earlier than one half hour before sunrise and ended no later than 0900 hours. Surveys for woodcock started shortly after local sunset and ended 40 minutes after the start time with some variation depending on cloud conditions.

Observers recorded all species of birds passively seen or heard during the 10-minute period.

Whip-poor-wills

Whip-poor-wills were surveyed using 10-minute point counts and driving routes. Survey points for the point counts were predetermined using Arcview and spaced at least 200 m apart within each habitat patch to decrease the likelihood of double counting birds.

Observers used GPS units to navigate to each survey point and conducted up to two replicates, which were spaced at least five days apart during May 25 – June 20, 2003. If a Whip-poor-will was recorded during the first survey replicate, a second replicate was not completed. Surveys were completed using Breeding Bird Survey (BBS) acceptable weather guidelines (USGS & CWS 1998). Surveys started shortly after local sunset and ended 105 minutes later (ASNH 2003). Observers recorded all species of birds passively seen or heard during the 10-minute period.

Three driving routes were established to survey selected habitat patches that were inaccessible because of landowner issues but located within close proximity to roads. Conducting driving routes also supplemented a similar effort by the Audubon Society of New Hampshire (ASNH) to better determine the status of Whip-poor-will in the state. Whip-poor-will survey protocol generally followed that outlined by ASNH (2003). Routes were at least 5 miles long with survey points spaced every half mile. Additional survey points were added to the end of the route if a predicted habitat patch was nearby, but not yet surveyed. Each route was predetermined using Arcview GIS.

Observers completed two replicates each separated by at least five days. Surveys were conducted under appropriate weather conditions (ASNH 2003) and began shortly after local sunset and ended 105 minutes later (ASNH 2003). Observers recorded all species of birds passively seen within 5-minutes of arriving at the survey point.

Wetland birds

Wetland birds were surveyed using broadcast surveys. An audiotape containing songs and calls of the wetland birds was played at survey points located within predicted habitat patches for thirteen minutes to aid in the detection of these usually cryptic species.

For emergent and scrub-shrub wetlands, survey points were spaced at least 200 m apart to decrease the likelihood of double counting birds. For open water wetlands, one survey point per 10 acres was established along the wetland edge at a location that provided a good view of the wetland and its edge. Observers used GPS units to mark survey points during the first visit and used the GPS units to navigate back to the exact points to conduct the second replicate of surveys.

Surveys were conducted up to two times during the breeding season between May 15 – July 31, 2003 and were spaced at least five days apart. Breeding Bird Survey (BBS) acceptable weather guidelines were followed (USGS & CWS 1998) and observers recorded all birds that responded to the broadcast as well as all birds passively seen or heard during the surveys.

Grassland birds

Grassland birds were surveyed using five-minute point counts and broadcast surveys. Survey points with a 100-yard radius were established within each designated polygon. Survey point centers were spaced at least 250 yards apart to decrease the likelihood of double counting birds. The number of survey points was determined by the size of the polygon (e.g. the larger the polygon; the more survey points).

Observers used GPS units to mark survey points during the first visit. The GPS units were used to navigate back to the exact points to conduct the second replicate of surveys. The latitude and longitude data collected with the GPS units were downloaded into Arcview and mapped to ensure that survey points were within the designated polygons and spaced the minimum distance apart.

Accessible polygons were visited prior to conducting the surveys to determine whether or not there was suitable habitat. For those polygons with suitable habitat, two replicates were done at each survey point during the month of June 2003, with replicates being spaced at least five days apart. If all grassland bird species were found to be present during the first survey replicate, a second replicate was not conducted. Breeding Bird Survey (BBS) acceptable weather guidelines were followed (USGS & CWS 1998) to determine suitable weather conditions for conducting surveys.

At each point observers conducted a five-minute point count and recorded the number of individuals of each bird species that was passively seen or heard. At the end of the five-minute survey, taped vocalizations of grassland species were broadcast for a period of three minutes to aid in the detection of cryptic species.

Mammals

New England cottontail

Selected habitat patches were visited during March 2003 when snow cover was present to look for evidence of cottontails. Each habitat patch was surveyed for the presence of tracks, pellets and browsed twigs. Tracks that were observed were distinguished between cottontails and hare. Pellets that were found in cottontail occupied patches were collected, labeled, and sent to a processing lab where they will undergo DNA testing to determine whether they are from an Eastern or a New England cottontail. Patches were also determined to be suitable or unsuitable based on their vegetative characteristics.

Sites determined to be suitable are characterized by dense understory vegetation (> 10,000 stems/ha; Litvaitis et al. 2003) as approximated by ocular estimation.

Quantitative Habitat Surveys

Quantitative vegetation plots were established at each accessible survey point where wildlife surveys occurred for American woodcock, whip-poor-wills, and Blue-winged warblers and Golden-winged warblers. The vegetation plots provided a detailed sample of the vegetative characteristics of the predicted habitat patches.

Four hundred square meter circular plots were established at each survey point and the following data were collected:

Average Canopy Height (m) – measured with a clinometer.

Percent Canopy Cover - > 6 m above ground. This parameter was visually determined and placed in one of the following cover categories: 0-2%, 2-5%, 5-12%, 12-25%, 25-50%, 50-75%, 75-100%.

Dominant/Co-Dominant Plant Species in Canopy – visually determined subjectively, by eye. A species needed to account for at least 40% of the canopy to be recorded. A co-dominant plant species was recorded in addition to the dominant plant species when there were two species that each represented ≥ 40% of the high canopy.

Percent Dominance of Dominant/Co-Dominant Species in Canopy - percent dominance/co-dominance of plant species in the canopy determined via ocular estimation.

DBH & Basal Area of Trees > 10 cm DBH – diameter at breast height (dbh) was measured for each tree using a dbh tape (cm). Basal area for each species and each plot was calculated and recorded on the datasheet after vegetation surveys were complete.

Average Shrub Height – the point in the shrub layer (1-6 m) that represents the average height of the shrub layer within the 400 m^2 plot. The height was measured in meters using a clinometer.

Shrub Layer Cover - Percent canopy closure of leaves and branches 1-6 m above ground. This parameter was visually determined and placed in one of the following cover categories: 0-2%, 2-5%, 5-12%, 12-25%, 25-50%, 50-75%, 75-100%.

Dominant Shrub Species – Species' dominance in the shrub layer (1-6 m) was visually determined.

Percent Dominance - Percent dominance of each shrub species was recorded as measured via ocular estimation.

Herb Layer Cover – Percent cover of each herb layer category presented (e.g., grass, forb, shrub, litter, etc.) using the following cover classes: 0-2%, 2-5%, 5-12%, 12-25%, 25-50%, 50-75%, 75-100%.

Dominant Ground Species - Up to six species that dominated the ground layer were recorded.

Percent cover – Percent cover of each dominant ground layer (0-5 m) species.

Average Robel Pole Measurements - a Robel pole is a 1.5-m stick that is demarcated every half-decimeter (i.e., 5 cm). The Robel pole was used to measure the height of the vegetation in grass dominated habitats to provide an index of plant biomass (Robel et al. 1970).

A habitat patch was deemed suitable if it met at least 50% of the key habitat characteristics identified in the literature.

Habitat Patch Descriptions

Habitat patch descriptions were completed for each patch where wildlife surveys took place. Observers walked throughout each patch and described the area using predetermined categories (Table 4). Observers classified each patch according to habitat type and the percent area each habitat comprised within the patch based on ocular estimation. When applicable, observers also classified stands of trees according to sizes (seedling/sapling, pole, etc.).

Table 4. Habitat patch definitions and datasheet codes used to classify each patch chosen for field verification.

Classification (code)	Definition
General Composition: Hardwood	> 75% deciduous
Central hardwoods: (CH)	> 75% oak-hickory
Northern hardwoods: (NH)	> 75% northern hardwoods
Mixed hardwoods: (MH)	25 - 75% central hardwoods 25 - 75% northern hardwoods
Deciduous wooded swamp (wetland): (H sw)	> 50% red maple (wetland)
General Composition: Mixed	25 - 75% deciduous 25 - 75% conifer
Northern hardwood/Conifer: (NHS)	25 - 75% hardwoods (> 75% is northern hardwoods) 25 - 75% conifer
Central hardwood/Conifer: (CHS)	25 - 75% hardwoods (> 75% is central hardwoods) 25 - 75% conifer
Mixed hardwoods/Conifer: (MHS)	25 - 75% mixed hardwoods (25 – 75% central hardwoods and 25 – 75% northern hardwoods) 25-75% conifer
Pitch pine/Central hardwoods: (PpCH)	25 - 75% pitch pine 25 - 75% central hardwoods
Mixedwood Swamp (wetland): (MX sw)	25 - 75% conifer 25 – 75% deciduous

Table 4. Cont'd

Classification (code)	Definition
General Composition: Softwood	> 75% conifer
Dominant/co-dominant species were listed when each comprised > 40%.	
White pine: (WP)	
Pitch pine: (PP)	
Red pine: (RP)	
Hemlock: (HE)	
Coniferous swamp (wetland): (S sw)	> 75% conifer
Stand Size Modifiers:	
Sapling-pole: (1)	2.5 – 10 cm dbh
Large pole: (2)	10.5 – 33 cm dbh
Sawtimber: (3)	33.5 – 56 cm dbh
Large sawtimber: (4)	>56 cm dbh
General Composition: Non-forest upland	
Old field*:(OF)	Abandoned fields with <50% tree/shrub canopy
Old field/Early successional*: (OF/ES)	Old fields with >50% but <100% canopy cover
Early-successional*: (ES)	Old fields or openings with 100% sapling cover
Powerline ROW*: (ROW)	ROW clearings through forested/other natural land cover
Fields*: (F)	Active agricultural uses, including row crops and hay fields

Table 4. Cont'd

Classification (code)	Definition
General Composition: Non-forest upland (cont'd)	
Fruit*: (FR)	Small fruit farming, e.g., blueberries
Orchard*: (OR)	Apple orchard
Extraction pits*: (EP)	Gravel, sand, clay extraction pits.
Abandoned extraction pits*: (AEP)	Revegetating or reclaimed extraction pits
Disturbed land*: (DL)	Land recently cleared of all or most vegetation; timber harvests
Developed (urban/suburban): (DV)	
General Composition: Non-forest/wetland	< 25% tree canopy coverage
Deep marsh: (DM)	> 50% tall graminoids (cat-tails, phragmites, and wool-grass)
Shallow marsh/fen: (M)	> 50% short grasses, sedges, and rushes (often w/ hummock-hollow topography)
Salt marsh: (SM)	
Shrub swamp: (SS)	> 50% shrub dominated
Wet field*: (WF)	Fields with tile lines or ditching evident, adjacent wetlands
Open water: (WA)	Areas submerged in water where above surface vegetation cannot be detected from aerial photo.

* Categories taken directly or modified from Sundquist (2002). All other categories taken from O'Shea (2002).

Results and Discussion

Reptiles and amphibians

Blanding's turtle

Twelve observations were recorded in the RAARP database for Blanding's turtle. For each of the twelve observations, some predicted habitat was found within the buffer distance of 2,050 m (Appendix A).

Wood turtle

The only RAARP observation for Wood turtle did not occur within 600 m of any predicted habitat for this species (Appendix A).

Spotted turtle

Only five RAARP observations exist for Spotted turtle in the study area. Of those five observations, four had some predicted habitat within the 1,150 m buffer (Appendix A).

Black racer

Only three RAARP observations exist for Black racer in the study area. Some predicted habitat occurred within 1,000 m of all three observations (Appendix A).

Eastern hognose

No RAARP observations exist for Eastern hognose snake within the study area. Therefore, the model could not be evaluated.

Discussion

Too few RAARP observations occurred to adequately evaluate the habitat models designed for these species. Additionally, because many of the observations occurred on or near roads, it indicates potential problems with using incidental wildlife observations to evaluate habitat quality, especially for those species with daily dispersal distances ranging up to 2 km. The time-constraint method (e.g., Corn and Bury 1990) may be the best means of evaluating habitat models, but was beyond the scope of this project given availability of time, labor, and funding. Future projects with similar objectives should keep this in mind.

Birds

American woodcock

Wildlife Surveys

Wildlife surveys were conducted on 15 of the 16 patches identified for field verification. One habitat patch was not visited because of landowner issues. Woodcock were observed in 3 of the 15 habitat patches (20%; Appendix A). Whip-poor-will were observed in two of the habitat patches.

Quantitative Habitat Surveys

Ten of the 15 patches that were surveyed for woodcock were also surveyed to assess habitat suitability. Quantitative data collected in the field was compared to key habitat characteristics as described in the literature (Table 5).

Table 5. Values of key habitat characteristics at American woodcock habitat patches and comparisons to literature standards. Bolded items are those that meet literature standards. Refer to maps provided in Appendix A for location of habitat patches.

Patch ID	% Canopy Cover	% Shrub Cover	Basal area (m^2/ha)	% Bare Ground
Literature	75-87	≥ 32%	6.0-16.6	12-17
AMWO 1	**51-75**	**51-75**	**13.54**	**6-12**
AMWO 2	26-50	**51-75**	**14.01**	**6-12**
AMWO 6	**76-100**	6-12	22.85	0
AMWO 7	**76-100**	12-25	52.34	0
AMWO 8	**51-75**	**51-75**	**8.7**	0-2
AMWO 12	**76-100**	**26-50**	**9.55**	0
AMWO 13	**76-100**	6-12	5.48	0-2
AMWO 14	**76-100**	6-12	32.15	0
AMWO 15	**51-75**	**26-50**	17.89	0
AMWO 16	**51-75**	**26-50**	28.53	0

Stem density and structure are key characteristics of woodcock nesting habitat. Suitable habitat contains 12-17% bare ground, ≥ 32% large shrub cover, and 4,900 -7,400 saplings/ha. Basal areas can range from 6.0-16.6 m^2/ha (various studies as cited in McAuley et al. 1996). Canopy closure can range from 75-87% for nesting and 53-64% for diurnal roosting sites (Dunford and Owen 1973, Morgenweck 1977, Straw et al. 1986).

The quantitative methods used to evaluate the suitability of predicted woodcock patches did not include an estimate of understory stem density. All of the other parameters were measured. Six of the ten patches (60%) sampled met at least 50% (2 out of 4) of the key habitat parameters described in the literature that were measured in the field (Table 5).

Habitat Patch Descriptions

American woodcock are associated with dense hardwood cover on moist soils mixed with open areas such as fields, abandoned farmlands and clear-cuts which are used by males as singing grounds for courtship displays (Mendall and Aldous 1943, Liscinsky 1972, Keppie and Whiting 1994, Straw et al. 1994). Woodcock show a clear preference for aspen and alders less than 20 years old (Mendall and Aldous 1943, Gregg and Hale 1977, Morgenweck 1977, Rabe 1977, Hudgins et al. 1985, McAuley et al. 1996).

Four additional habitat patches were deemed suitable based on habitat patch descriptions (Appendix E; Table 1). Generally these patches were described as having dense shrub cover in proximity to wetlands or in a seedling/sapling stage of succession. Combined with the results of the wildlife surveys and quantitative vegetation surveys, 12 of 15 patches were deemed suitable providing a model accuracy of 80%.

Whip-poor-will

Wildlife Surveys

Twelve of sixteen habitat patches were surveyed for whip-poor-will. The remaining four habitat patches were not surveyed because of landowner issues or pending development. Three habitat patches were surveyed using point count protocols. The remaining nine were surveyed using driving routes because of landowner issues and they occurred near roads.

No whip-poor-wills were observed at any of the predicted habitat patches (0%). One Whip-poor-will was observed during one of the driving route surveys in an area not predicted as habitat and two were observed during American woodcock surveys.

Quantitative Habitat Surveys

Quantitative habitat surveys were completed at five of twelve patches surveyed for Whip-poor-will. The remainder was not surveyed because of landowner issues or because survey points occurred in the yards or driveways of single family homes that were adjacent to woodlands within predicted patches.

Little is known about the quantitative habitat requirements of Whip-poor-will (e.g. percent ground cover, stem density, basal area and percent canopy cover; Cink 2002).

However, Whip-poor-will tend to prefer dry, open mixed woodlands (pine, oak, and beech) adjacent to open areas such as fields, pastures, wetlands, or other clearings (DeGraaf and Yamasaki 2001, Robbins 1994). At least three predicted habitat patches appear to provide an open woodland condition based on the quantitative vegetation data collected (Appendix A: Table 6). If accurate, this would indicate that the Whip-poor-will model was 25% successful at identifying Whip-poor-will habitat. However, given a lack of information regarding habitat requirements for Whip-poor-will in the literature, this is not conclusive.

Habitat Patch Descriptions

Habitat descriptions were completed for seven of twelve habitat patches where wildlife surveys occurred. Five contained large pole-sized mixed hardwoods (primarily oak, pine, hickory, and/or hemlock. One contained sapling-sized mixed hardwoods. The remaining patch contained sawtimber-sized white pine (Appendix E; Table 2). However, without knowing the characteristics of the understory, it would be difficult to estimate whether any of these areas provide suitable habitat for Whip-poor-will.

Table 6. Data for potentially key habitat characteristics at predicted whip-poor-will habitat patches. Bolded items indicate a potentially open woodland condition thought to be preferred by whip-poor-wills. Refer to maps provided in Appendix A for location of habitat patches.

Patch ID	Habitat Code	% Comp	% Canopy Cover	% Shrub Cover	Basal Area
WHWI 2	MHS-2	100	76-100	**6-12**	**18.15**
WHWI 3	MHS-2	65	76-100	**6-12**	**26.11**
	MH-2	35			
WHWI 4	MHS-2	100	76-100	26-50	17.93
WHWI 6	WP-3	100	0	26-50	4.32
WHWI 15	MH-1	100	51-75	**13-25**	**15.53**

Blue-winged and Golden-winged warblers

Wildlife Surveys

Wildlife surveys were conducted in seven of 19 patches identified for field verification. Three of the remaining had been developed, six had landowner issues, and three were deemed not to contain suitable habitat because they occurred in the yards of private homes or open pasture with no shrub cover, a key habitat component for Blue-winged and Golden-winged warblers. The warbler models relied heavily on early-successional

landcover, which was derived from the interpretation of 1998/99 color infrared aerial photos (Sundquist 2002). As such, areas found to be developed will remain out of model success calculations since these areas may have been developed since the taking of these photos.

Blue-winged warblers were recorded in four of eight habitat patches (seven surveyed patches + one patch located in pasture) resulting in a 50% success rate (Appendix A). No Golden-winged warblers were observed during the surveys.

Quantitative Habitat Surveys

Suitable Blue-winged and Golden-winged warbler habitat is characterized by having 10-30% herbaceous cover, 15-25% shrub cover, and 5-40% tree cover (Confer and Knapp 1981, French and Confer 1987, Gill et. al. 2001). Basal areas tend to be relatively low (~10 m^2/ha; Klaus and Buehler 2001).

Only one of the seven habitat patches met at least 50% of the key habitat parameters that were measured in the field (Table 7). This patch also had a Blue-winged warbler recorded in it during the wildlife surveys. Interestingly, Blue-winged warblers were also observed in three other polygons where quantitative habitat data indicated they were unsuitable habitat (WARB 7, WARB8, & WARB10). Quantitative habitat surveys only took place at the survey points utilized for wildlife surveys. As such, they won't necessarily reflect the quality of the habitat throughout the entire patch. This highlights the importance of using a variety of means to evaluate the effectiveness of GIS habitat models.

Table 7. Values of key habitat characteristics at Blue-winged and Golden-winged warbler habitat patches and comparisons to literature standards. Bolded items are those that meet literature standards. Refer to maps provided in Appendix A for location of habitat patches.

Patch ID	**% Canopy Cover**	**% Shrub Cover**	**Basal area (m^2/ha)**
Literature	5-40	15-25	~ 10
WARB 3	0	0	0
WARB 7	**13-25**	26-50	**8.53**
WARB 8	0-2	26-50	0
WARB 10	**3-5**	51-75	0
WARB 14	0	76-100	0
WARB 17	76-100	3-5	**7.16**
WARB 18	**3-5**	51-75	1.17

Habitat Patch Descriptions

Blue-winged warblers and Golden-winged warblers tend to inhabit open, grass dominated areas and old fields with patches of trees and shrubs (DeGraaf and Yamasaki 2001). One additional habitat patch was deemed suitable based on this criteria (Appendix E; Table 3) for a model success rate of 71% (5 of 7 patches deemed suitable via wildlife surveys or habitat descriptions). The remaining two patches were not suitable because of an absence of shrubs or a high density of seedling/saplings with patches of mature hardwoods and softwoods.

Wetland Birds

Wildlife Surveys

Fourteen of seventeen identified patches were surveyed. Two of the remaining were not surveyed because of landowner issues. The last patch was determined not to be suitable habitat because of an absence of open water and the presence of mature mixed hardwoods and softwoods. This patch was included in model success calculations. Surveys resulted in no target wetland bird species being observed (0%; Appendix A).

Quantitative Habitat Surveys

No quantitative habitat surveys were completed for wetland bird patches because of a lack of information pertaining to their habitat preferences other than water depth. As such, habitat suitability for wetland birds was determined only from the habitat patch descriptions.

Habitat Patch Descriptions

American bittern, Least bittern, Sora and Common moorhen are all associated with fresh water wetlands, both permanent and semi-permanent, with tall, dense, emergent vegetation such as cattails, bulrushes, reeds and sedges, interspersed with areas of open water (Degraaf and Yamasaki 2001, Strohmeyer 1977). American bittern generally uses areas with an average water depth of 10 cm or less (Fredrickson and Reid 1986, Hanowski and Niemi 1986) while Least bittern prefer deeper water (i.e., 50-70 cm; Fredrickson and Reid 1986, Swift 1989). Sora uses a wide range of water depths ranging from 0-92 cm, while sites occupied by Common moorhen are generally deeper than 30 cm (Strohmeyer 1977, Johnson and Dinsmore 1986).

Pied billed grebe use seasonal or permanent ponds, freshwater wetlands, riparian areas, and other bodies of still water with approximately 34% open water and average water depths of 35.5 cm (Sealy 1978, Brown and Dinsmore 1986, Mueller and Storer 1999).

Sedge wrens tend to use slightly different habitats from other bird species associated with wetlands. They tend to occupy sites with very little to no open water. They commonly utilize sedge meadows and the damp edges of marshes, ponds and wetlands. Sedge wrens are sensitive to fluctuations in water level and will abandon sites if they become too wet or too dry (DeGraaf and Yamasaki 2001).

Seven of fourteen predicted habitat patches were deemed suitable for American bittern (50%), five for Least bittern (36%), and six for Sora, Common moorhen, and Sedge wren (43%) based on habitat patch descriptions (Table 8: Appendix E; Table 4).

Table 8. Number of suitable habitat patches and percent model success for wetland birds.

Species	# Suitable patches	% Success
American bittern	7	50
Least bittern	5	36
Sora	6	43
Common moorhen	6	43
Pied-billed grebe	0	0
Sedge wren	6	43

Many of the wetland bird species are difficult to detect due to their secretive nature. For example, Least bittern are considered the most inconspicuous marsh bird in north America. They are seldom seen even where they are common (Gibbs et al. 1992)

Habitat assessments were completed at each of the fourteen habitat patches that were visited and all but two were classified as having suitable habitat for at least some of the wetland bird species that were surveyed for. This resulted in a 88% success rate in predicting areas of suitable habitat for wetland birds. Two of the habitat patches were determined not to be suitable habitat because one was an old beaver pond with no open water and was grown in with sedges and the second habitat patch was a forested wetland with mature trees and a wet forest floor.

Grassland Birds

Wildlife Surveys

Only two of nine identified habitat patches were surveyed for grassland birds. The remaining seven were not surveyed because they did not have suitable habitat or had landowner access issues (Table 9).

Table 9. Current condition of grassland habitat patches that were not surveyed for grassland birds.

# patches	Current condition
1	Newly planted apple orchard*
1	Corn field
1	Old field with abundant shrub cover
2	Succeeding clearcuts with 20-30 ft tall trees
2	Landowner issues*
7	

* Not included in model success calculation.

No grassland bird species were observed during surveys (0%; Appendix A).

Quantitative Habitat Surveys

No quantitative habitat surveys were completed on the two patches surveyed for grassland birds because they both had been recently cut for hay. Vegetation (primarily grass) height is a key characteristic of sites occupied by both Grasshopper sparrows and Upland sandpipers. Grasshopper sparrows are reported to use areas with vegetation that is 30-70 cm tall (Sample 1989, Delany et al. 1985) while Upland sandpipers prefer shorter vegetation (i.e., 13-40 cm tall; Kaiser 1979, Ailes 1980). Since both areas had been recently cut, it was impossible to quantitatively assess this habitat component.

Habitat Patch Descriptions

Grasshopper sparrows and Upland sandpipers are associated with a variety of grass-dominated habitat types including pastures, meadows, hay fields, and grassy areas bordering airport runways and highways (DeGraaf and Yamasaki 2001). A lack of woody cover (< 5%) and a predominance of grasses and forbs (~ 75%), and bare ground (2-25%) are also important for Grasshopper sparrows and Upland sandpipers (Wiens 1969, Whitmore 1981, Bock and Webb 1984, Sample 1989, van den Driessche et al. 1994).

The two habitat patches that were surveyed for grassland birds were active hayfields, both of which were dominated by herbaceous vegetation (> 75%) and little woody cover (< 5%: Appendix E; Table 5). Both of these patches would be suitable for Grasshopper sparrow and Upland sandpiper if managed properly for these species (e.g., delayed

harvesting). Therefore, two of six patches checked for habitat suitability were actually suitable for grassland birds (30%).

Mammals

New England cottontail

Wildlife Surveys

New England cottontail surveys occurred on 19 of 19 identified habitat patches. One patch was in the process of being developed and was left out of model success calculations. Evidence of lagomorphs (either hare or cottontail) was found in 2 of the 18 patches (11%: Appendix A). Pellets were collected from the single patch that contained evidence of cottontail and will be analyzed as part of a study to determine the status of New England cottontails in its historic range (Litvaitis 2003).

Quantitative Habitat Surveys

Habitat assessments were conducted at each of the sites that were visited to determine their suitability for New England cottontail. Four of eighteen habitat patches were determined to have suitable habitat via a combination of habitat assessment (areas with at least 10,000 stems/ha) and wildlife surveys (22%: Appendix A).

Conclusions and Recommendations for Land Protection

Reptiles and Amphibians

Even though the habitat models for these species could not be adequately evaluated, some general land protection guidelines can be suggested for the special concern turtles addressed in this study based on the "coarse filter" co-occurrence map created using the GIS analysis outlined in Kanter et al. (2001). This analysis involved mapping and overlaying the following resources: unfragmented blocks of natural landcover > 500 acres; wetlands > 20 acres; emergent wetlands < 20 acres; riparian buffer zones of 300 feet; agriculture and other open lands; and other significant wildlife habitats (Figure 1). The resulting co-occurrence map can be used to identify potential conservation priorities based on the following guidelines:

1) Conserve areas with diverse wetland components, especially streams and rivers with intact, undeveloped riparian areas and emergent or scrub-shrub wetlands in large unfragmented habitat blocks (Jenkins and Babbitt 2003).
2) Conserve large unfragmented habitat blocks with little or no road access. Roads contribute to turtle mortality which may affect population stability (Congdon et al. 1993);
3) Conserve intact, undeveloped riparian areas that will act as travel corridors for turtles and other wildlife (Carroll 1999).

Using these guidelines, the results of the "coarse filter" habitat analysis, and newly acquired turtle observation and home range research data gathered in the study area (e.g., RAARP, Carroll 1999, Jenkins and Babbitt 2003), some potential conservation priorities stand out. These priorities are listed and described below with recommendations for future conservation efforts within each patch provided.

1) Unfragmented habitat patches TURTLE1 AND TURTLE2 located primarily in the town of Durham (Appendix B). TURTLE1 encompasses 1,265 acres and is surrounded by Longmarsh Road to the north, Dame Road to the south and southeast, and Route 108 to the west. A radio-tagged Blanding's turtle used the wetlands in TURTLE1 extensively (Jenkins and Babbitt 2003), while another study recorded Blanding's and spotted turtles in various locations in this patch (Carroll 1999).

   TURTLE2 is 565 acres and is surrounded by Bennett Road to the north, Packers Fall Road to the west, Route 108 to the east, and the center of Newmarket to the south. Carroll (1999) identified many areas within this patch as suitable habitat for both Blanding's and spotted turtles.

   A small portion of TURTLE1 and much of TURTLE2 is already conserved. Future conservation efforts in TURTLE1 should focus on the wetland complex along Dame Road for conservation. In TURTLE2, the

wetland complex along La Roche Brook should be considered for conservation.

2) Unfragmented habitat patches TURTLE3 AND TURTLE4 (Appendix B). TURTLE3 is located in the towns of Durham and Lee. All of TURTLE4 is located in Lee. TURTLE3 encompasses 838 acres and is surrounded by the Lamprey River to the north, Wednesday Hill Road to the east, Wiswall Road to the south, and Lee Hook Road to the west. TURTLE4 is 1,010 acres in size and is surrounded by the Lamprey River to the north, Lee Hook Road to the east, Route 152 to the south, and Tuttle Road to the west.

   A radio-tagged Blanding's turtle used the wetlands in TURTLE3 extensively (Jenkins and Babbitt 2003), while another study recorded Blanding's, and wood turtles in various locations in both patches (Carroll 1999). Five RAARP observations of Blanding's turtles have been recorded on or near the roads surrounding these patches.

   None of TURTLE3 has been conserved to date. Future conservation efforts in this patch may want to focus on the wetland complex near the terminus of Little Hook Road where turtle activity has been recorded, and the wetlands along the Lamprey River. Portions of TURTLE4 are already under conservation. Future efforts in this patch may want to focus on the wetland complex just north of the UNH Burley-Demeritt Farm.

3) Unfragmented habitat patches TURTLE5, TURTLE6N, AND TURTLE7 (Appendix B). TURTLE5 is located mostly in the town of Newmarket while TURTLE6N is located in Epping. TURTLE7 is split between the towns of Newmarket and Newfields.

   TURTLE5 encompasses 1,168 acres and is surrounded by Route 152 to the north, Ash Swamp Road to the east, Old Grant Road to the south, and Camp Lee Road to the west. TURTLE6N is approximately 450 acres in size and is surrounded by the town boundary to the north, Camp Lee and Berry Roads to the east, Route 87 to the south, and North River Road and the watershed boundary to the west. TURTLE7 encompasses 1,142 acres and is surrounded by Old Grant Road to the north, Piscassic Street to the east, Route 87 to the south, and Bald Hill Road to the west.

   Two radio-tagged Blanding's turtles extensively used the wetlands in TURTLE5 just west of Norton Cemetery (Jenkins and Babbitt 2003). A RAARP record indicates a Blanding's turtle observation just south of the same wetland complex. Carroll (1999) also observed a Blanding's turtle and spotted turtle in the same general location. In TURTLE6N, wood turtles were recorded by Carroll (1999) along the Lamprey River. Five RAARP observations of Blanding's turtles have been recorded on or near

the roads surrounding these patches. Two RAARP records indicate the presence of wood turtles in TURTLE7, and two Blanding's turtles used the wetland complex just east of Bald Hill Road extensively (Jenkins and Babbitt 2003).

Little conservation land exists in any of these patches. Future conservation efforts in these patches may want to focus on the wetland complex just west of Norton Cemetery, the wetlands just east of Bald Hill Road, and the areas surrounding the Lamprey River.

4) Unfragmented habitat patches TURTLE6S AND TURTLE8 (Appendix B). TURTLE6S is located in the town of Epping while TURTLE8 is primarily located in the towns of Exeter and Newfields. TURTLE6S encompasses approximately 450 acres and is surrounded by Old Hedding Road and Route 87 to the north, Birch Road to the east, Mast Road and Route 27 to the south, and Route 125 to the west. TURTLE8 is 896 acres in size and is surrounded by Route 87 and Mast Road to the north, Cuba Road to the east, Route 101 to the south, and Birch Road to the west.

   Blanding's and wood turtles have been observed in various parts of TURTLE6S, primarily along the river (Carroll 1999). No turtles have been observed in TURTLE8, but the riparian areas surrounding the rivers located in this habitat patch are thought to be important travel corridors for turtles observed on the conservation land to the east and potential turtle populations to the west (Carroll 1999). Little conservation land exists in either habitat patch. Future conservation efforts in these patches should focus on conserving riparian areas.

5) Unfragmented habitat patches TURTLE9 AND TURTLE10 (Appendix B). Both patches are located in the town of Epping. TURTLE9 encompasses 775 acres and is surrounded by Plumer Street to the east, Prescott Road to the south, and Dearborn Road to the west. TURTLE10 is 882 acres in size and is surrounded by Prescott Road to the north, Main Street to the east, Route 27 to the south, and Blake Road to the west.

   Blanding's and wood turtles have been observed at Hoar Pond (Carroll 1999) and suitable habitat may exist along the brook on the west side of TURTLE9. A RAARP record exists for a Blanding's turtle near the center of Epping very near TURTLE10. Observations of wood and Blanding's turtles have also been recorded along the Lamprey River near TURTLE10 to the west (Carroll 1999). Little conservation land exists in either habitat patch. Future conservation efforts in these patches should focus on riparian areas along the Lamprey River and the brook on the west side of TURTLE9.

6) Unfragmented habitat patch TURTLE11 located in the towns of Raymond and Nottingham (Appendix B). This patch encompasses 2,033 acres and is delineated by the watershed boundary to the north and west, Long Hill Road and Route 27 to the south-southwest, and the roads in the Governor's Lake area to the east-southeast.

   This area has not been well studied. As such, no turtles of special concern have been observed in this patch. However, potential habitat may exist along Dudley Brook. This area should be targeted for surveys in the future. Since, little conservation land exists in this patch, future conservation efforts should focus on the riparian area surrounding the brook.

7) Unfragmented habitat patch TURTLE12 primarily located in the town of Raymond (Appendix B). This patch encompasses 1,157 acres and is delineated by Langford Road to the north, Onway Lake and Green Road to the east, utility lines to the south, and Dearborn Road to the west.

   Like TURTLE11, this area has not been well studied. However, a RAARP record does exist for a Blanding's turtle in the large wetland just south of the railroad tracks and east of the patch boundary. Additional potential habitat may exist along the brook in the habitat patch. Like TURTLE11, this area should be targeted for surveys in the future. Since, little conservation land exists in this patch, future conservation efforts should focus on the riparian area surrounding the brook.

Although all portions of the unfragmented blocks listed above are important for the long-term conservation of turtle populations (as well as other species of wildlife that require unfragmented habitat blocks – e.g., bobcat, red-shouldered hawk, cooper's hawk, veery, wood thrush, and others), initial conservation efforts should focus on conserving core turtle habitat first (i.e., the wetland and riparian areas suggested in the unfragmented habitat block descriptions). A travel corridor between the unfragmented patches should also be conserved to enhance the stability of turtle populations in the area.

Birds

American woodcock, Blue-winged & Golden-winged warblers

GIS habitat model success varied considerably among species (25-80%; Table 1). The American woodcock and Blue-winged and Golden-winged warbler habitat models were relatively proficient at detecting habitat for these species (80% and 71%, respectively). Further refinement of these models should be investigated so they may be potentially applied to New Hampshire Fish & Game's Comprehensive Wildlife Conservation Plan. The Comprehensive Plan will address the conservation needs of the state's at-risk species and will include information on their current status and distribution, and current and

potential habitats. These three species have been identified as priority species for the Comprehensive Plan.

Towns and land conservation organizations should consider the areas identified as suitable habitat for woodcock and warblers in this study as they identify areas for conservation. Priority should be given to (in order of priority):

1) larger habitat patches, especially those in which warblers or woodcock were observed;
2) suitable habitat patches near or adjacent to similar habitat that is protected;
3) suitable habitat patches near or adjacent to similar habitat that is not protected.

Using these guidelines a few potential conservation priorities stand out with regards to American woodcock habitat:

8) Habitat patches AMWO10 & AMWO11 located in the town of Epping just north of the New England Speedway along the Piscassic River (Appendix B). Woodcock were observed in AMWO10 and suitable habitat exists in both habitat patches. Conservation land with similar habitat exists less than 0.25 mile away to the east. As riparian habitat, this patch probably also provides suitable habitat for wood turtles and northern leopard frog, both species of concern in the state.

9) Habitat patches AMWO1, AMWO2, & AMWO6 located in the town of Durham surrounding the farmland near the intersections of Route 108, Bennett Road and Longmarsh Road (Appendix B). The predicted habitat patches provide appropriate feeding and nesting cover, while the surrounding farmland probably provides suitable breeding and evening roosting habitat. The farmland west of Route 108 was also identified as potential habitat for grassland birds but would require some habitat management to make it suitable for those species. The farmland and surrounding habitats could be further enhanced for American woodcock and other early-successional wildlife species (e.g., New England cottontail) if properly managed.

   The Nature Conservancy of New Hampshire recently purchased AMWO2 and AMWO6 for the Great Bay Resource Protection Partnership. Ownership of AMWO6 will be transferred to the New Hampshire Fish & Game Department (Zankel pers. comm..).

3) Habitat patch AMWO8 located in the town of Newmarket just east of Bald Hill and Bald Hill Road (Appendix B). No woodcock were observed in this 3.23 ha (~8 acre) patch during this study, but a woodcock was observed in or near this patch during a previous survey (Nongame Program 2002). This patch provides suitable foraging and potentially

suitable nesting habitat while the nearby farmland may provide suitable breeding and evening roosting habitat. Although not identified by the habitat model, other suitable feeding and nesting patches may be found along the edges of the marsh located just east of AMWO8.

Potential conservation priorities for the warblers include:

1) WARB3 located in the town of Newmarket just north of the Rockingham Country Club and east of Route 108 and the railroad tracks (Appendix B). This 20 ha (~ 50 acre) patch is still dominated by grass with woody shrubs just starting to invade it. Currently, the best warbler habitat in this patch occurs along the edges of the field. However, if succession is allowed to continue, the entire patch would be suitable for warblers and other early-successional wildlife species including potentially New England cottontail. The large size of this patch is desirable as numerous pairs of warblers and other early-successional wildlife would be able to utilize it. Other farmland occurs nearby that could also provide suitable shrubland habitat if allowed to succeed.

   If WARB3 and/or other fields are allowed to succeed into shrubland habitat, they should be maintained as such by mowing portions of the fields every few years. State and federal programs such as the Natural Resources Conservation Service's Wildlife Habitat Incentives Program (NRCS 2003), the Farm Service Agency's Conservation Reserve Program (FSA 2003), and Fish & Game's Small Grants Program (NHFG 2000) are available to provide technical and financial assistance on restoring and managing these areas if needed.

2) WARB7 located in the town of Durham at the end of Little Hook Road. Approximately 1/3 of this 15.5 ha (~38 acre) patch is suitable habitat for warblers. The remainder is a mix of relatively mature northern hardwoods and softwoods. However, other fields occur on conservation lands to the southwest of WARB7 that could provide suitable habitat for warblers and other shrubland associated species if managed properly.

3) WARB10 located just north of the center of Epping on Hedding Road. Although surrounded by development with a potentially high predator population (e.g., cats, raccoons, skunks, etc.), this site should be considered for conservation because it is one of the few sites where warblers and lagamorphs (hare or cottontail) were recorded. Its relatively large size (14.4 ha or ~ 35.5 acres) may help buffer some of the impacts of predation.

Whip-poor-will

The whip-poor-will habitat model was relatively inaccurate (25% success, but not conclusive). A lack of knowledge regarding the habitat requirements of whip-poor-will is probably the primary factor here. Currently not enough information is available to adequately create or evaluate a habitat model for this species. Additional habitat information will be needed to derive accurate habitat models in the future.

Wetland birds

The wetland bird habitat models were moderately successful at identifying suitable habitat patches for these species (36-50%). However, this success rate was based solely on habitat patch descriptions, which provides only a cursory evaluation of suitability. Additionally, no wetland birds were detected during wildlife surveys. Many of the wetland bird species are difficult to detect during wildlife surveys due to their secretive nature. For example, Least bittern are considered the most inconspicuous marsh bird in North America. They are seldom seen even where they are common (Gibbs et al. 1992). This coupled with their rarity in the state, will reduce the chances of observing these species in the field. Also lacking is information on the habitat requirements for these species. Little quantitative information exists regarding their habitat requirements. All of these factors contribute to making it exceedingly difficult to adequately evaluate the habitat models. Like whip-poor-wills, additional habitat information will be needed to derive and evaluate habitat models in the future.

Grassland birds

Even though the grassland bird habitat models did not have a high level of success in predicting current habitat for these species (33%), it did highlight areas with potential to provide habitat. All but two (i.e., succeeding clearcuts) of the predicted habitat patches that were evaluated for grassland bird suitability could easily provide suitable grassland habitat if managed properly. All of these patches should be considered when identifying areas for land conservation with priority given to the following (in priority order):

1) largest active hayfields near similar protected habitat;
2) largest active hayfields near similar unprotected habitat;
3) largest other open habitat patches near similar protected habitat;
4) largest other open habitat patches near similar unprotected habitat.

Using these guidelines a few potential conservation priorities stand out with regards to potential grassland bird habitat:

1) GRBD4 located in the town of Durham between Bennett Road and Route 108 (Appendix B). This 35 ha (~ 86.5 acre) patch is currently an active hayfield and contained Bobolinks, Eastern meadowlark, and Savannah sparrows prior to it being cut in early July. Like Grasshopper sparrows and Upland sandpipers, these species have also been experiencing

population declines throughout the Northeast. This hayfield is large enough and has the potential to provide habitat for Grasshopper sparrows if managed properly (e.g., delayed mowing or other techniques dependent on landowner and wildlife objectives), but is too small for Upland sandpipers.

2) GRBD8 located in the town of Fremont at Martin Crossing just north of North Road and west of Route 125 (Appendix B). This 29 ha (~ 72 acre) patch is mostly heavily used pasture, but still contained numerous Bobolinks and at least one Eastern meadowlark. Like GRBD4 this area is large enough and has the potential to provide habitat for Grasshopper sparrows if managed properly (e.g., modifying the grazing system or other means dependant on landowner and wildlife objectives), but is too small for Upland sandpipers.

3) GRBD5 (43 ha) & GRBD6 (36 ha) located in the town of Durham between Lee Hook Road and the Lamprey River, and along Route 155 just north of the intersection with Route 152, respectively (Appendix B). Approximately half of both GRBD5 and GRBD6 are under conservation. The University of New Hampshire owns a portion of GRBD5 while the town of Lee owns a portion of GRBD6. Both of these areas are active cornfields. These areas could provide adequate grassland bird habitat if planted to hay and managed via delayed mowing, or if left fallow for a few years and maintained via periodic mowing every 2-3 years. Both of these areas are large enough for Grasshopper sparrows but not for Upland sandpipers.

State and federal programs such as the Natural Resources Conservation Service's Wildlife Habitat Incentives Program (NRCS 2003), the Farm Service Agency's Conservation Reserve Program (FSA 2003), and Fish & Game's Small Grants Program (NHFG 2000) are available to provide technical and financial assistance on restoring and managing these areas if needed.

Mammals

New England cottontail

The habitat model derived for New England cottontails was among those with the lowest success rate (26%). This species principally focuses on vegetation structure, preferring early-successional habitats with high understory stem densities (> 10,000 stems/ha; Litvaitis 2003). This type of habitat condition is difficult to discern from aerial photos (the source of early-successional habitat data used in this study area).

A more suitable alternative to GIS habitat models for this species may be systematic field sampling of potential habitat patches as identified through roadside surveys. Such a

survey is currently underway by researchers at the University of New Hampshire to determine current distribution of New England cottontails in the Northeast (Litvaitis et al. 2003). Because it is a regional survey, it is not an exhaustive survey at the town level. Even so, towns and conservation organizations should consider any habitats identified in the Litvaitis et al. (2003) study when identifying priority areas for land conservation.

Even though success for this habitat model was relatively low, a few potential priority areas for conservation were identified:

1) NEC11 just north of the center of Epping on Hedding Road. This area was also identified as a Blue-winged and Golden-winged warbler habitat patch. As stated previously, although surrounded by development with a potentially high predator population (e.g., cats, raccoons, skunks, etc.), this site should be considered for conservation because it is one of the few sites where warblers and lagamorphs (hare or cottontail) were recorded. Its relatively large size (14.4 ha or ~ 35.5 acres) may help buffer some of the impacts of predation.

2) NEC15 located in the town of Newmarket just south of Grapevine Hill Road (Appendix B). Even though the identified patch is relatively small (3.9 ha - ~ 10 acres), it appears from the aerial photo that similar habitat surrounds NEC15, which would effectively double the amount of suitable habitat for New England cottontails. Additionally, this patch is situated adjacent to existing conservation land, which also makes this an attractive choice for conservation.

Next Steps

This study identified potential conservation priorities for the towns of Epping, Durham, Newmarket, Lee, and Fremont. Each of these towns will be provided with a summary of the methods and results of this study and potential conservation priorities outlined for their town. The Fish & Game Department is also in the process of completing a coarse filter wildlife habitat mapping analysis for the state similar to that used by Sundquist (2002), and that outlined in the "habitat manual" (Kanter et al. 2001). The process has been modified to include additional criteria for identifying potential significant wildlife habitats and the ranking protocol has been modified to place a higher degree of importance on unfragmented and rare/unique habitats. This analysis should be completed by late winter and the datalayers and final co-occurrence map will be made available on the GRANIT website. It is recommended that the towns in this study area overlay the potential conservation priorities outlined in this report atop the resulting coarse filter habitat maps to further evaluate the importance of those patches. A biologist from the Fish & Game Department will be available to assist towns in interpreting the coarse filter habitat mapping analysis and the information provided to them in their summary reports.

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Appendix A:

Appendix A was excluded from this .pdf version due to the large size of the map files (200 MB). To recieve a copy of the maps, call the NHEP office at 433-7187

Appendix B:

Appendix B was excluded from this .pdf version due to the large size of the map files (200 MB). To recieve a copy of the maps, call the NHEP office at 433-7187

Field Verification of the Piscassic and Lower Lamprey River Watersheds Wildlife Habitat GIS Modeling Study

Volume 2

Appendices C, D, E
Field Data

In partnership with:
The Audubon Society of New Hampshire
The Nature Conservancy of New Hampshire
The New Hampshire Living Legacy Project

The Society for the Protection of New Hampshire's Forests
University of New Hampshire – Cooperative Extension

Prepared by:
Jim Oehler & Allison Briggaman
Nongame & Endangered Wildlife Program,
New Hampshire Fish & Game Department
John Kanter, Program Coordinator

January 2004

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Appendix C:

Completed Wildlife Survey Data Sheets
(presented in the following order):

American woodcock
Whip-poor-will
Blue-winged & Golden-winged warblers
Wetland birds
Grassland birds

Piscassic & Lamprey River Watershed
Wildlife Habitat Model Field Verification Surveys
American Woodcock

Observer: John A. Litvaitis

Phone #: (603) 862-2094

Date of Survey:

5/15/2003
Month/Day/Year

Official Sunset:

8 : 03 pm

Sky:

0__ Clear
1__ ¼ Overcast
3__ ½ Overcast
5__ ¾ Overcast
Add 22 minutes
7 X >3/4 Overcast – Add 15 minutes

Temp:

___35-39
X 40-49
___50-59
___60-69
___70+

Wind:

0 __Calm
1 __Gentle (1-3 mph)
3 X Light (4-7 mph)
5 __ Moderate (8-12 mph)
7 __ Strong (>12 mph)

Precip:

0 X None
1___Mist
3___Snow, Hvy Rain
5___Fog
7___Light Rain

Point ID	Town	Repl	Start Time	# Peenting	End Time
AMWO 01-01	Durham	1	7:25 pm	0	7:40 pm
Remarks: Not peenting habitat					
AMWO 02-01	Durham	1	7:58 pm	0	8:15 pm
Remarks: Peenting habitat nearby but not here					
AMWO 02-02	Durham	1		0	
Remarks: Not peenting habitat					
Remarks					
Remarks					
Remarks					
Remarks					

Piscassic & Lamprey River Watershed Wildlife Habitat Model Field Verification Surveys **American Woodcock**	Observers: Matt and Tracy Tarr Phone #:

Date of Survey:	Sky:	Temp:	Wind:	Precip:
5/12/2003 Month/Day/Year	0__ Clear 1__ ¼ Overcast 3__ ½ Overcast 5__ ¾ Overcast Add 22 minutes 7 __ >3/4 Overcast – Add 15 minutes	___35-39 ___40-49 ___50-59 ___60-69 ___70+	0 __Calm 1 __Gentle (1-3 mph) 3 __ Light (4-7 mph) 5 __ Moderate (8-12 mph) 7 __ Strong (>12 mph)	0___None 1___Mist 3___Snow, Hvy Rain 5___Fog 7___Light Rain
Official Sunset: 8 :00 pm				

Point ID	Town	Repl	Start Time	# Peenting	End Time
AMWO 03-01	Lee	1		0	
Remarks: Not suitable habitat					
Remarks:					
Remarks:					
Remarks					
Remarks					
Remarks					
Remarks					

Piscassic & Lamprey River Watershed Wildlife Habitat Model Field Verification Surveys **American Woodcock**	Observers: Matt and Tracy Tarr Phone #:

Date of Survey: 5/13/2003 Month/Day/Year Official Sunset: 8 :01 pm	Sky: 0__ Clear 1__ ¼ Overcast 3__ ½ Overcast 5__ ¾ Overcast Add 22 minutes 7 __ >3/4 Overcast – Add 15 minutes	Temp: ___35-39 ___40-49 ___50-59 ___60-69 ___70+	Wind: 0 __Calm 1 __Gentle (1-3 mph) 3 __ Light (4-7 mph) 5 __ Moderate (8-12 mph) 7 __ Strong (>12 mph)	Precip: 0___None 1___Mist 3___Snow, Hvy Rain 5___Fog 7___Light Rain

Point ID	Town	Repl	Start Time	# Peenting	End Time
AMWO 05-01	Lee	1		0	
Remarks: Not suitable habitat					
Remarks:					
Remarks:					
Remarks					
Remarks					
Remarks					
Remarks					

Piscassic & Lamprey River Watershed Wildlife Habitat Model Field Verification Surveys **American Woodcock**	Observers: Matt Ross and Mike Marchand Phone #: (603) 335-5213 and (603) 740-2987

Date of Survey:	Sky:	Temp:	Wind:	Precip:
5/12/2003 Month/Day/Year	0__ Clear 1__ ¼ Overcast 3__ ½ Overcast 5__ ¾ Overcast Add 22 minutes 7 X >3/4 Overcast – Add 15 minutes	___35-39 X 40-49 ___50-59 ___60-69 ___70+	0 __Calm 1 X Gentle (1-3 mph) 3 __ Light (4-7 mph) 5 __ Moderate (8-12 mph) 7 __ Strong (>12 mph)	0 X None 1___Mist 3___Snow, Hvy Rain 5___Fog 7___Light Rain
Official Sunset: 8 : 00 pm				

Point ID	Town	Repl	Start Time	# Peenting	End Time
AMWO 06-01	Durham	1	8:39 pm	0	8:49 pm
Remarks: In forested wetland with pockets of standing water, approximately 400 feet from road.					
AMWO 06-02	Durham	1	8:15 pm	0	8:25 pm
Remarks: Approximately 180 feet from NH Route 108, in forested habitat – Traffic Noise!					
Remarks:					
Remarks					
Remarks					
Remarks					
Remarks					

Piscassic & Lamprey River Watershed Wildlife Habitat Model Field Verification Surveys **American Woodcock**	Observers: Matt Ross and Mike Marchand Phone #: (603) 335-5213 and (603) 740-2987

Date of Survey: 5/19/2003 Month/Day/Year Official Sunset: 8 :07 pm	Sky: 0 X Clear 1__ ¼ Overcast 3__ ½ Overcast 5__ ¾ Overcast Add 22 minutes 7 __ >3/4 Overcast – Add 15 minutes	Temp: ___35-39 ___40-49 X 50-59 ___60-69 ___70+	Wind: 0 X Calm 1 __Gentle (1-3 mph) 3 __ Light (4-7 mph) 5 __ Moderate (8-12 mph) 7 __ Strong (>12 mph)	Precip: 0 X None 1___Mist 3___Snow, Hvy Rain 5___Fog 7___Light Rain

Point ID	Town	Repl	Start Time	# Peenting	End Time
AMWO 06-01	Durham	2	8:56 pm	0	9:06 pm
Remarks:					
AMWO 06-02	Durham	2	8:37 pm	2	8:47 pm
Remarks: Heard two peenting out of polygon					
Remarks:					
Remarks					
Remarks					
Remarks					
Remarks					

Piscassic & Lamprey River Watershed Wildlife Habitat Model Field Verification Surveys **American Woodcock**	Observers: Matt and Tracy Tarr Phone #:

Date of Survey: 5/14/2003 Month/Day/Year Official Sunset: 8 :02 pm	Sky: 0__ Clear 1__ ¼ Overcast 3__ ½ Overcast 5__ ¾ Overcast Add 22 minutes 7 __ >3/4 Overcast – Add 15 minutes	Temp: ___35-39 ___40-49 ___50-59 ___60-69 ___70+	Wind: 0 __Calm 1 __Gentle (1-3 mph) 3 __ Light (4-7 mph) 5 __ Moderate (8-12 mph) 7 __ Strong (>12 mph)	Precip: 0___None 1___Mist 3___Snow, Hvy Rain 5___Fog 7___Light Rain

Point ID	Town	Repl	Start Time	# Peenting	End Time
AMWO 07-01	Lee	1		0	
Remarks: Not suitable habitat					
Remarks:					
Remarks:					
Remarks					
Remarks					
Remarks					
Remarks					

Piscassic & Lamprey River Watershed Wildlife Habitat Model Field Verification Surveys **American Woodcock**	Observer: Ellen Snyder Phone #: (603) 659-6250

Date of Survey:	Sky:	Temp:	Wind:	Precip:
5/19/2003 Month/Day/Year	0 X Clear 1__ ¼ Overcast 3__ ½ Overcast 5__ ¾ Overcast Add 22 minutes 7 __ >3/4 Overcast – Add 15 minutes	___35-39 ___40-49 X 50-59 ___60-69 ___70+	0 X Calm 1 __Gentle (1-3 mph) 3 __ Light (4-7 mph) 5 __ Moderate (8-12 mph) 7 __ Strong (>12 mph)	0 X None 1___Mist 3___Snow, Hvy Rain 5___Fog 7___Light Rain
Official Sunset: 8 :07 pm				

Point ID	Town	Repl	Start Time	# Peenting	End Time
AMWO 08-01	Newmarket	1	8:44 pm	0	8:54 pm
Remarks: Landowner did not give permission to access land but I listened from the road for 10 minutes. No woodcock. I have heard them in past years here in the spring. This site seems to have the best woodcock habitat. Continue to hear whip-poor-will towards Newfield.					
AMWO 08-02	Newmarket	1	8:29 pm	0	8:39 pm
Remarks: Habitat is scrub-shrub wetland bordered by white pine forest. This scrub-shrub habitat is connected to a larger wetland system. Hayfields near point AMWO 8-1. Heard a whip-poor-will in the distance.					
Remarks:					
Remarks					
Remarks					
Remarks					
Remarks					

Piscassic & Lamprey River Watershed Wildlife Habitat Model Field Verification Surveys **American Woodcock**	Observers: Ellen Snyder and Srini Vasan Phone #: (603) 659-6250

Date of Survey: 5/18/2003 Month/Day/Year Official Sunset: 8 :06 pm	Sky: 0 X Clear 1__ ¼ Overcast 3__ ½ Overcast 5__ ¾ Overcast Add 22 minutes 7 __ >3/4 Overcast – Add 15 minutes	Temp: ___35-39 ___40-49 X 50-59 ___60-69 ___70+	Wind: 0 X Calm 1 __Gentle (1-3 mph) 3 __ Light (4-7 mph) 5 __ Moderate (8-12 mph) 7 __ Strong (>12 mph)	Precip: 0 X None 1___Mist 3___Snow, Hvy Rain 5___Fog 7___Light Rain

Point ID	Town	Repl	Start Time	# Peenting	End Time
AMWO 09-01	Newfields	1	8:28 pm	0	8:38 pm
Remarks: Habitat is scrub-shrub/forested wetland along state-aid snowmobile trail. Open water/emergent marsh within 200 yards; no open fields nearby. Access to point – approximately ½ mile along trail from old railway station off Ash Swamp Rd (near route 108).					
Remarks:					
Remarks:					
Remarks					
Remarks					
Remarks					
Remarks					

Piscassic & Lamprey River Watershed Wildlife Habitat Model Field Verification Surveys **American Woodcock**	Observers: Jason and Allison Briggaman Phone #: (603) 271-6544

Date of Survey:	Sky:	Temp:	Wind:	Precip:
5/8/2003 Month/Day/Year	0 __ Clear 1__ ¼ Overcast 3__ ½ Overcast 5 X ¾ Overcast 7 __ >3/4 Overcast – Add 15 minutes (Add 22 minutes)	___35-39 ___40-49 X 50-59 ___60-69 ___70+	0 X Calm 1 __Gentle (1-3 mph) 3 __ Light (4-7 mph) 5 __ Moderate (8-12 mph) 7 __ Strong (>12 mph)	0 X None 1___Mist 3___Snow, Hvy Rain 5___Fog 7___Light Rain
Official Sunset: 7 :55 pm				

Point ID	Town	Repl	Start Time	# Peenting	End Time
AMWO 10-01	Epping	1	8:50 pm	1	9:00 pm
Remarks: similar habitat to 11-01, no woodcock heard					
AMWO 11-01	Epping	1	8:40 pm	0	8:50 pm
Remarks: Point on opposite side of Piscassic River – could not get to due to deep water – both sides of river very thick, dense shrubs and wet ground with hummocks or open water. One woodcock heard on opposite side of river near point.					
Remarks:					
Remarks					
Remarks					
Remarks					
Remarks					

Piscassic & Lamprey River Watershed Wildlife Habitat Model Field Verification Surveys **American Woodcock**	Observers: Jason and Allison Briggaman Phone #: (603) 271-6544

Date of Survey: 5/19/2003 Month/Day/Year Official Sunset: 8 :07 pm	Sky: 0 X Clear 1__ ¼ Overcast 3__ ½ Overcast 5__ ¾ Overcast Add 22 minutes 7 __ >3/4 Overcast – Add 15 minutes	Temp: ___35-39 ___40-49 X 50-59 ___60-69 ___70+	Wind: 0 X Calm 1 __Gentle (1-3 mph) 3 __ Light (4-7 mph) 5 __ Moderate (8-12 mph) 7 __ Strong (>12 mph)	Precip: 0 X None 1___Mist 3___Snow, Hvy Rain 5___Fog 7___Light Rain

Point ID	Town	Repl	Start Time	# Peenting	End Time
AMWO 10-02	Epping	1	8:40 pm	0	8:50 pm
Remarks: Active beaver dam and lodge along Piscassic (saw beavers) and heard one whip-poor-will.					
Remarks:					
Remarks:					
Remarks					
Remarks					
Remarks					
Remarks					

Piscassic & Lamprey River Watershed Wildlife Habitat Model Field Verification Surveys **American Woodcock**	Observers: Rachel Stevens and Jay Sullivan Phone #: (603) 778-0015

Date of Survey: 5/12/2003 Month/Day/Year Official Sunset: 8 :00 pm	Sky: 0__ Clear 1__ ¼ Overcast 3__ ½ Overcast 5__ ¾ Overcast Add 22 minutes 7 X >3/4 Overcast – Add 15 minutes	Temp: ___35-39 ___40-49 X 50-59 ___60-69 ___70+	Wind: 0 X Calm 1 __Gentle (1-3 mph) 3 __ Light (4-7 mph) 5 __ Moderate (8-12 mph) 7 __ Strong (>12 mph)	Precip: 0 X None 1___Mist 3___Snow, Hvy Rain 5___Fog 7___Light Rain

Point ID	Town	Repl	Start Time	# Peenting	End Time
AMWO 12-01	Exeter	1	8:40 pm	0	8:50 pm
Remarks: Point is someone's greenhouse – rest of polygon housing development and sapling/pole overgrown, dense clearcut. Rained earlier.					
AMWO 12-02	Exeter	1	8:22 pm	0	8:32 pm
Remarks: Overgrown clearcut, wet but very dense. Blueberry and birches.					
Remarks:					
Remarks					
Remarks					
Remarks					
Remarks					

Piscassic & Lamprey River Watershed Wildlife Habitat Model Field Verification Surveys **American Woodcock**	Observers: Jay Sullivan and Chris Clinansmith Phone #: (603) 778-0015

Date of Survey: 5/21/2003 Month/Day/Year Official Sunset: 8 : 09 pm	Sky: 0__ Clear 1__ ¼ Overcast 3__ ½ Overcast 5__ ¾ Overcast Add 22 minutes 7 X >3/4 Overcast – Add 15 minutes	Temp: ___35-39 ___40-49 X 50-59 ___60-69 ___70+	Wind: 0 X Calm 1 __Gentle (1-3 mph) 3 __ Light (4-7 mph) 5 __ Moderate (8-12 mph) 7 __ Strong (>12 mph)	Precip: 0 X None 1___Mist 3___Snow, Hvy Rain 5___Fog 7___Light Rain

Point ID	Town	Repl	Start Time	# Peenting	End Time
AMWO 12-01	Exeter	2	8:40 pm	0	8:50 pm
Remarks: Point is greenhouse in backyard, housing development and overgrown, dense clearcut. Rained earlier.					
AMWO 12-02	Exeter	2	8:18 pm	0	8:28 pm
Remarks: Overgrown clearcut, wet and dense with blueberry and birches.					
Remarks:					
Remarks					
Remarks					
Remarks					
Remarks					

Piscassic & Lamprey River Watershed Wildlife Habitat Model Field Verification Surveys **American Woodcock**	Observers: Alina Pyzikiewicz and Sean Maxwell Phone #: (603) 497-3589 and (603) 674-0625

Date of Survey: 5/8/2003 Month/Day/Year Official Sunset: 7:55 pm	Sky: 0__ Clear 1__ ¼ Overcast 3__ ½ Overcast 5 X ¾ Overcast Add 22 minutes 7__ >3/4 Overcast – Add 15 minutes	Temp: ___35-39 X 40-49 ___50-59 ___60-69 ___70+	Wind: 0 X Calm 1 __Gentle (1-3 mph) 3 __ Light (4-7 mph) 5 __ Moderate (8-12 mph) 7 __ Strong (>12 mph)	Precip: 0___None 1___Mist 3___Snow, Hvy Rain 5___Fog 7 X Light Rain

Point ID	Town	Repl	Start Time	# Peenting	End Time
AMWO 13-01	Raymond	1	8:15 pm	0	8:25 pm
Remarks: Birch/alder/hemlock sapling forest					
AMWO 14-01	Raymond	1	8:35 pm	0	8:45 pm
Remarks: Small hemlock forest next to large wetland					
Remarks:					
Remarks					
Remarks					
Remarks					
Remarks					

Piscassic & Lamprey River Watershed Wildlife Habitat Model Field Verification Surveys **American Woodcock**	Observer: Sean Maxwell Phone #: (603) 674-0625

Date of Survey:	Sky:	Temp:	Wind:	Precip:
5/17/2003 Month/Day/Year	0 X Clear 1__ ¼ Overcast 3__ ½ Overcast 5__ ¾ Overcast Add 22 minutes 7__ >3/4 Overcast – Add 15 minutes	___35-39 __40-49 X 50-59 ___60-69 ___70+	0 X Calm 1 __Gentle (1-3 mph) 3 __ Light (4-7 mph) 5 __ Moderate (8-12 mph) 7 __ Strong (>12 mph)	0 X None 1___Mist 3___Snow, Hvy Rain 5___Fog 7__ Light Rain
Official Sunset: 8 : 05 pm				

Point ID	Town	Repl	Start Time	# Peenting	End Time
AMWO 13-01	Raymond	2	8:10 pm	0	8:22 pm
Remarks: Alder/hemlock wetland, not breeding display habitat.					
AMWO 14-01	Raymond	2	8:25 pm	0	8:35 pm
Remarks: Small hemlock forest next to large wetland, not breeding display habitat.					
Remarks:					
Remarks					
Remarks					
Remarks					
Remarks					

Piscassic & Lamprey River Watershed
Wildlife Habitat Model Field Verification Surveys
American Woodcock

Observer: James Oehler and Dan Hayward

Phone #: (603) 271-2605

Date of Survey:	Sky:	Temp:	Wind:	Precip:
5/8/2003 Month/Day/Year	0___Clear 1__ ¼ Overcast 3__ ½ Overcast 5__ ¾ Overcast Add 22 minutes 7 X >3/4 Overcast – Add 15 minutes	___35-39 X 40-49 ___50-59 ___60-69 ___70+	0 X Calm 1 __Gentle (1-3 mph) 3 __ Light (4-7 mph) 5 __ Moderate (8-12 mph) 7 __ Strong (>12 mph)	0 X None 1___Mist 3___Snow, Hvy Rain 5___Fog 7__ Light Rain
Official Sunset: 7 : 55 pm				

Point ID	Town	Repl	Start Time	# Peenting	End Time
AMWO 15-01	Brentwood	1	8:11 pm	0	8:21 pm
Remarks: Point located on sapling/pole red maple with hydric soils about ¼ acre in size, also spirea, high-bush blueberry, and arrow-wood. Surrounding it is pole/small saw white pine					
AMWO 16-01	Fremont	1	8:49 pm	0	8:59 pm
Remarks: Too dark to adequately describe.					
Remarks:					
Remarks					
Remarks					
Remarks					
Remarks					

Piscassic & Lamprey River Watershed
Wildlife Habitat Model Field Verification Surveys
American Woodcock

Observer: James Oehler

Phone #: (603) 271-2605

Date of Survey:

5/15/2003
Month/Day/Year

Official Sunset:

8 : 03 pm

Sky:

0___Clear
1__ ¼ Overcast
3__ ½ Overcast
5__ ¾ Overcast
Add 22 minutes
7 X >3/4 Overcast – Add 15 minutes

Temp:

___35-39
X 40-49
__50-59
___60-69
___70+

Wind:

0 X Calm
1 __Gentle (1-3 mph)
3 __ Light (4-7 mph)
5 __ Moderate (8-12 mph)
7 __ Strong (>12 mph)

Precip:

0 X None
1___Mist
3___Snow, Hvy Rain
5___Fog
7__ Light Rain

Point ID	Town	Repl	Start Time	# Peenting	End Time
AMWO 15-01	Brentwood	2	8:23 pm	0	8:33 pm
Remarks:					
AMWO 16-01	Fremont	2	8:54 pm	0	9:04 pm
Remarks:					
Remarks:					
Remarks					
Remarks					
Remarks					
Remarks					

Piscassic & Lamprey River Watershed Wildlife Habitat Model Field Verification Surveys **Whip-poor-will**	Observers: Jason and Allison Briggaman Phone #: (603) 271-6544

Date of Survey: 6/3/2003 Month/Day/Year Official Sunset: 8 : 21 pm	Sky: 0__ Clear 1__ ¼ Overcast 3__ ½ Overcast 5 X ¾ Overcast 7__ >3/4 Overcast – Add 22 minutes (Add 22 minutes)	Temp: ___35-39 ___40-49 X 50-59 ___60-69 ___70+	Wind: 0 X Calm 1 __Gentle (1-3 mph) 3 __ Light (4-7 mph) 5 __ Moderate (8-12 mph) 7 __ Strong (>12 mph)	Precip: 0 X None 1___Mist 3___Snow, Hvy Rain 5___Fog 7___Light Rain

Point ID	Town	Repl	Start Time	# Peenting	End Time
WHWI 2-1	Lee	1	9:04 pm	0	9:14 pm
Remarks: Mixed canopy: white pine, red cedar, oaks and maples, canopy approximately 75% closed. Understory open.					
WHWI 2-2	Lee	1	8:40 pm	0	8:50 pm
Remarks: Canopy primarily hardwood with scattered pine/hemlock. Hardwoods consist of shagbark, red maple, and American beech. Understory open.					
Remarks					
Remarks					
Remarks					
Remarks					
Remarks					

Piscassic & Lamprey River Watershed Wildlife Habitat Model Field Verification Surveys **Whip-poor-will**	Observers: Jason Briggaman Phone #

Date of Survey: 6/16/2003 Month/Day/Year Official Sunset: 8 : 28 pm	Sky: 0 X Clear 1__ ¼ Overcast 3__ ½ Overcast 5__ ¾ Overcast Add 22 minutes 7__ >3/4 Overcast – Add 15 minutes	Temp: ___35-39 ___40-49 X 50-59 ___60-69 ___70+	Wind: 0 X Calm 1 __Gentle (1-3 mph) 3 __ Light (4-7 mph) 5 __ Moderate (8-12 mph) 7 __ Strong (>12 mph)	Precip: 0 X None 1___Mist 3___Snow, Hvy Rain 5___Fog 7___Light Rain

Point ID	Town	Repl	Start Time	# Peenting	End Time
WHWI 2-1	Lee	2	8:47 pm	0	8:57 pm
Remarks:					
WHWI 2-2	Lee	2	9:04 pm	0	9:14 pm
Remarks:					
Remarks					
Remarks					
Remarks					
Remarks					
Remarks					

Piscassic & Lamprey River Watershed Wildlife Habitat Model Field Verification Surveys **Whip-poor-will**	Observers: Jason and Allison Briggaman Phone #: (603) 271-6544

Date of Survey: 6/3/2003 Month/Day/Year Official Sunset: 8 : 21 pm	Sky: 0__ Clear 1__ ¼ Overcast 3__ ½ Overcast 5 X ¾ Overcast Add 22 minutes 7__ >3/4 Overcast – Add 15 minutes	Temp: ___35-39 ___40-49 X 50-59 ___60-69 ___70+	Wind: 0 X Calm 1 __Gentle (1-3 mph) 3 __ Light (4-7 mph) 5 __ Moderate (8-12 mph) 7 __ Strong (>12 mph)	Precip: 0 X None 1___Mist 3___Snow, Hvy Rain 5___Fog 7___Light Rain

Point ID	Town	Repl	Start Time	# Peenting	End Time
WHWI 3-1	Lee	1	9:49 pm	0	9:59 pm
Remarks: Canopy 75-100% closed with primarily hardwoods (oak and maple) and scattered softwoods. Understory open.					
WHWI 3-2	Lee	1	9:35 pm	0	9:45 pm
Remarks: Mixed canopy, 75-100% closed, with primarily oak and pine and some scattered cedar. Understory open.					
Remarks					
Remarks					
Remarks					
Remarks					
Remarks					

Piscassic & Lamprey River Watershed Wildlife Habitat Model Field Verification Surveys **Whip-poor-will**	Observers: Allison Briggaman and Jason Briggaman Phone #: (603) 271-6544

Date of Survey: 6/16/2003 Month/Day/Year Official Sunset: 8 : 28 pm	Sky: 0 X Clear 1__ ¼ Overcast 3__ ½ Overcast 5__ ¾ Overcast Add 22 minutes 7__ >3/4 Overcast – Add 15 minutes	Temp: ___35-39 ___40-49 X 50-59 ___60-69 ___70+	Wind: 0 X Calm 1 __Gentle (1-3 mph) 3 __ Light (4-7 mph) 5 __ Moderate (8-12 mph) 7 __ Strong (>12 mph)	Precip: 0 X None 1___Mist 3___Snow, Hvy Rain 5___Fog 7___Light Rain

Point ID	Town	Repl	Start Time	# Peenting	End Time
WHWI 3-1	Lee	2	9:28 pm	0	9:38 pm
Remarks:					
WHWI 3-2	Lee	2	9:09 pm	0	9:19 pm
Remarks: Nothing! No birds heard at all!					
Remarks					
Remarks					
Remarks					
Remarks					
Remarks					

Piscassic & Lamprey River Watershed Wildlife Habitat Model Field Verification Surveys **Whip-poor-will**	Observer: James Oehler Phone #: (603) 271-2461

Date of Survey: 6/3/2003 Month/Day/Year	Sky: 0__ Clear 1__ ¼ Overcast 3__ ½ Overcast 5 X ¾ Overcast 7__ >3/4 Overcast – Add 22 minutes (Add 22 minutes)	Temp: ___35-39 ___40-49 X 50-59 ___60-69 ___70+	Wind: 0 X Calm 1 __Gentle (1-3 mph) 3 __ Light (4-7 mph) 5 __ Moderate (8-12 mph) 7 __ Strong (>12 mph)	Precip: 0 X None 1___Mist 3___Snow, Hvy Rain 5___Fog 7___Light Rain
Official Sunset: 8 : 21 pm				

Point ID	Town	Repl	Start Time	# Peenting	End Time
WHWI 4-1	Lee	1	8:36 pm	0	8:46 pm
Remarks: COYE, OVEN, EATO, SCTA, VEER, GRCA? And thrush of some sort. Near edge of old field.					
WHWI 4-2	Lee	1	8:53 pm	0	9:03 pm
Remarks					
Remarks					
Remarks					
Remarks					
Remarks					
Remarks					

Piscassic & Lamprey River Watershed Wildlife Habitat Model Field Verification Surveys **Whip-poor-will**	Observers: Allison Briggaman Phone #: (603) 271-6544

Date of Survey: 6/16/2003 Month/Day/Year Official Sunset: 8 : 28 pm	Sky: 0 X Clear 1__ ¼ Overcast 3__ ½ Overcast 5__ ¾ Overcast Add 22 minutes 7__ >3/4 Overcast – Add 15 minutes	Temp: ___35-39 ___40-49 X 50-59 ___60-69 ___70+	Wind: 0 X Calm 1 __Gentle (1-3 mph) 3 __ Light (4-7 mph) 5 __ Moderate (8-12 mph) 7 __ Strong (>12 mph)	Precip: 0 X None 1___Mist 3___Snow, Hvy Rain 5___Fog 7___Light Rain

Point ID	Town	Repl	Start Time	# Peenting	End Time
WHWI 4-1	Lee	2	8:50 pm	0	9:00 pm
Remarks: Catbird, veery					
WHWI 4-2	Lee	2	9:27 pm	0	9:37 pm
Remarks:					
Remarks					
Remarks					
Remarks					
Remarks					
Remarks					

New Hampshire Whip-poor-will Survey Form

Please submit this form and supporting map to:
New Hampshire Fish and Game Department
Nongame and Endangered Wildlife Program
2 Hazen Drive
Concord, NH 03301
(603) 271-6544

Observer:	**David Blezard**
Address:	**34 Riverside Farm Drive**
	Lee, NH 03824
Phone:	**(603) 343-1223**
E-mail:	**djb1@cisunix@unh.edu**

Route Name:	**WHWI Transect 1**
Town:	**Durham, Lee, Newmarket, NH**
Date:	**June 19, 2003**
Time Start:	**8:44 pm**
Time End:	**10:17 pm**

Wind:	**X calm**	**___ light**	**___ moderate ***	**___ strong ***	**(see instructions)**	
Sky Condition:	**X clear/partly cloudy**	**___ mostly cloudy/overcast**	**___ light, scattered fog**	**___ heavy fog ***	**___ intermittent drizzle**	**___consistent rain/drizzle ***
Noise Effect:	**___ no effect**	**X slight effect**	**___moderate effect**	**___serious effect**	**(see instructions)**	

*** Do not conduct survey under these conditions**

Stop No.	minute 1-3 # indiv.	minute 4-5 # new indiv.	Total indiv	Habitat code	Noise Code	Comments (including other nocturnal birds detected)
1	0	0	0	AJ	2/4	Train tracks and road intersection
2	0	0	0	AEH	3	Constant river noise, 5+ bats -possibly two species
3	0	0	0	ABGH	3	Constant tree frog trills
4	0	0	0	AEH	3	Constant river noise
5	0	0	0	AFH	2	One owl hoot – Barred owl?
6	0	0	0	AFH	1	
7	0	0	0	ABH	2	
8	0	0	0	AFH	3	Constant tree frog trills
9	0	0	0	AH	2	
10	0	0	0	AFHJ	3	Driving range

Additional Comments (use back of sheet if necessary):

Stop 1 noise – train approaching during last minute of survey.

New Hampshire Whip-poor-will Survey Form

Please submit this form and supporting map to:
New Hampshire Fish and Game Department
Nongame and Endangered Wildlife Program
2 Hazen Drive
Concord, NH 03301
(603) 271-6544

Observer:	**Ellen Snyder**
Address:	**26 Johnson Drive**
	Newmarket, NH 03857
Phone:	**(603) 659-6250**
E-mail:	**ellen.snyder@unh.edu**

Route Name:	**WHWI Transect 2**
Town:	**Newmarket, NH**
Date:	**June 12, 2003**
Time Start:	**8:41 pm**
Time End:	**9:49 pm**

Wind:	**X calm**	**___ light**	**___ moderate ***	**___ strong ***	**(see instructions)**	
Sky Condition:	**X clear/partly cloudy**	**X mostly cloudy/overcast**	**___ light, scattered fog**	**___ heavy fog ***	**___ intermittent drizzle**	**___consistent rain/drizzle ***
Noise Effect:	**X no effect**	**___ slight effect**	**___moderate effect**	**___serious effect**	**(see instructions)**	

*** Do not conduct survey under these conditions**

Stop No.	minute 1-3 # indiv.	minute 4-5 # new indiv.	Total indiv	Habitat code	Noise Code	Comments (including other nocturnal birds detected)
1	0	0	0	AH	1	N 43 03 25.4 W 070 57 33.8 at cemetary
2	0	0	0	AH	1	N 43 03 38.9 W 070 58 00.0 at auto body shop
3	0	0	0	AH	2	N 43 03 59.5 W 070 57 55.1 at Shady Lane
4	0	0	0	AH	3	N 43 04 17.2 W 070 57 27.0 at ranch house with pool
5	0	0	0	AH	1	N 43 04 19.4 behind elementary school W 070 57 00.8 next to the playground
6	0	0	0	AI	2	N 43 04 29.8 at Lan-prey Health Care W 070 56 38.6 parking lot, small grassy area
7	0	0	0	AI	3	N 43 04 28.3 on New Rd just after turn near W 070 56 15.6 sign "Caution blind person"
8	0	0	0	AH	1	N 43 04 09.4 W 070 55 48.1 at first entrance to Birch Drive
9	0	0	0	AH	1	N 43 03 59.6 W 070 55 30.7 at entrance to Sawyer Farm
10	0	0	0	AHF	1	N 43 03 28.5 along New Rd ½ mile from last W 070 55 24.3 stop.

Additional Comments (use back of sheet if necessary):

- **A busy route with traffic. Several stops lack safe places to pull off the road. Not suitable as a long term route**
- **Route includes very little, if any, suitable whip-poor-will habitat.**
- **For number 10 above: did not follow driveway to last point (Private Road – No Trespassing) Stayed on New Rd instead.**
- **Sky condition was clear/partly cloudy at the beginning of the survey and mostly cloudy/overcast at the end.**

New Hampshire Whip-poor-will Survey Form

Please submit this form and supporting map to:
New Hampshire Fish and Game Department
Nongame and Endangered Wildlife Program
2 Hazen Drive
Concord, NH 03301
(603) 271-6544

Observer:	**Ellen Snyder**
Address:	**26 Johnson Drive**
	Newmarket, NH 03857
Phone:	**(603) 659-6250**
E-mail:	**ellen.snyder@unh.edu**

Route Name:	**WHWI Transect 2**
Town:	**Newmarket, NH**
Date:	**June 30, 2003**
Time Start:	**8:49 pm**
Time End:	**9:16 pm**

Wind:	**X calm**	**___ light**	**___ moderate ***	**___ strong ***	**(see instructions)**	
Sky Condition:	**X clear/partly cloudy**	**__ mostly cloudy/overcast**	**___ light, scattered fog**	**___ heavy fog ***	**___ intermittent drizzle**	**___consistent rain/drizzle ***
Noise Effect:	**___ no effect**	**X slight effect**	**___moderate effect**	**___serious effect**	**(see instructions)**	

*** Do not conduct survey under these conditions**

Stop No.	minute 1-3 # indiv.	minute 4-5 # new indiv.	Total indiv	Habitat code	Noise Code	Comments (including other nocturnal birds detected)
1	0	0	0	AH	3	WHWI 9 Lawnmower
2	0	0	0	AH	1	WHWI 7
3	___	____	____	____	____	WHWI 8 This polygon appears to overlay with Durrel Drive subdivision
4						
5						
6						
7						
8						
9						
10						

Additional Comments (use back of sheet if necessary):
I did not re-run the entire route but checked the three polygons.

New Hampshire Whip-poor-will Survey Form

Please submit this form and supporting map to:
New Hampshire Fish and Game Department
Nongame and Endangered Wildlife Program
2 Hazen Drive
Concord, NH 03301
(603) 271-6544

Observer:	**Gregory Tillman**
Address:	**49 Plumer Road**
	Epping, NH 03042
Phone:	
E-mail:	**Gregory.tillman@FMR.com**

Route Name:	**WHWI Transect 3**
Town:	**Epping, NH**
Date:	**June 10, 2003**
Time Start:	**8:40 pm**
Time End:	

Wind	**calm**	**light**	**moderate ***	**strong ***	**(see instructions)**	
Sky Condition	**clear/partly cloudy**	**mostly cloudy/overcast**	**light, scattered fog**	**heavy fog ***	**intermittent drizzle**	**consistent rain/drizzle ***
Noise Effect	**no effect**	**slight effect**	**moderate effect**	**serious effect**	**(see instructions)**	

*** Do not conduct survey under these conditions**

Stop No.	minute 1-3 # indiv.	minute 4-5 # new indiv.	Total indiv	Habitat code	Noise Code	Comments (including other nocturnal birds detected)
1						
2						
3						
4						
5						
6						
7						
8						
9						
10						

Additional Comments (use back of sheet if necessary):

Did not observe any Whip-poor-wills at any of the stops.

New Hampshire Whip-poor-will Survey Form

Please submit this form and supporting map to:
New Hampshire Fish and Game Department
Nongame and Endangered Wildlife Program
2 Hazen Drive
Concord, NH 03301
(603) 271-6544

Observer:	**Gregory Tillman**
Address:	**49 Plumer Road**
	Epping, NH 03042
Phone:	
E-mail:	**Gregory.tillman@FMR.com**

Route Name:	**WHWI Transect 3**
Town:	**Epping, NH**
Date:	**June 30, 2003**
Time Start:	**8:45pm**
Time End:	

Wind	**calm**	**light**	**moderate ***	**strong ***	**(see instructions)**	
Sky Condition	**clear/partly cloudy**	**mostly cloudy/overcast**	**light, scattered fog**	**heavy fog ***	**intermittent drizzle**	**consistent rain/drizzle ***
Noise Effect	**no effect**	**slight effect**	**moderate effect**	**serious effect**	**(see instructions)**	

*** Do not conduct survey under these conditions**

Stop No.	minute 1-3 # indiv.	minute 4-5 # new indiv.	Total indiv	Habitat code	Noise Code	Comments (including other nocturnal birds detected)
1						
2						
3						
4						
5						
6						
7						
8						
9						**One whip-poor-will observed at this stop**
10						

Additional Comments (use back of sheet if necessary):

One Whip-poor-will observed at the corner of Mast and Hedding Road.

Piscassic & Lamprey River Watershed Wildlife Habitat Model Field Verification Surveys **Warbler Bird Point Counts**	Observers: James Oehler, Allison Briggaman and Fred Pinch Phone #: (603) 271-6544

Date of Survey: 6/12/2003 Month/Day/Year	Sky: 0 __ Clear 1 X ¼ Overcast 3__ ½ Overcast Add 22 minutes 5__ ¾ Overcast 7__ >3/4 Overcast – Add 15 minutes	Temp: ___35-39 ___40-49 X 50-59 ___60-69 ___70+	Wind: 0 X Calm 1 __Gentle (1-3 mph) 3 __ Light (4-7 mph) 5 __ Moderate (8-12 mph) 7 __ Strong (>12 mph)	Precip: 0___None 1___Mist 3___Snow, Hvy Rain 5 X Fog 7___Light Rain
Official Sunrise: 5 : 06 am				

Polygon ID: WARB 3-1	Town: Newmarket	Start Time: 5 : 24 am	End Time: 5 : 34 am

				10 Minute Point Count									
Species Code				Males				Females			Unknown		
				S	C	V	F	C	V	F	C	V	F
N	O	M	O								1		
C	O	Y	E	1									
R	W	B	L			6							
M	O	D	O								1		
N	O	F	L									1	
E	A	K	I									1	
A	M	C	O								4		

Piscassic & Lamprey River Watershed Wildlife Habitat Model Field Verification Surveys **Warbler Bird Point Counts**	Observers: Allison Briggaman and Fred Pinch Phone #: (603) 271-6544

Date of Survey:	Sky:	Temp:	Wind:	Precip:
6/25/2003 Month/Day/Year	0 X Clear 1__ ¼ Overcast 3__ ½ Overcast Add 22 minutes 5__ ¾ Overcast 7__ >3/4 Overcast – Add 15 minutes	___35-39 ___40-49 X 50-59 ___60-69 ___70+	0 X Calm 1 __Gentle (1-3 mph) 3 __ Light (4-7 mph) 5 __ Moderate (8-12 mph) 7 __ Strong (>12 mph)	0___None 1___Mist 3___Snow, Hvy Rain 5 X Fog 7___Light Rain
Official Sunrise: 5 : 07 am				

Polygon ID:	Town:	Start Time:	End Time:
WARB 3-1	Newmarket	5 : 34 am	5 : 44 am

				10 Minute Point Count									
				Males				Females			Unknown		
Species Code				S	C	V	F	C	V	F	C	V	F
B	**W**	**W**	**A**	1									
C	O	Y	E	2									
R	W	B	L			3					2		
V	E	E	R	2									
B	L	J	A								1		
A	M	R	O			1							
M	O	D	O									2	

Piscassic & Lamprey River Watershed Wildlife Habitat Model Field Verification Surveys **Breeding Bird Point Counts**	Observers: James Oehler, Allison Briggaman and Fred Pinch Phone #: (603) 271-6544

Date of Survey: 6/12/2003 Month/Day/Year Official Sunrise: 5 : 06 am	Sky: 0 __ Clear 1 X ¼ Overcast 3__ ½ Overcast Add 22 minutes 5__ ¾ Overcast 7__ >3/4 Overcast – Add 15 minutes	Temp: ___35-39 ___40-49 X 50-59 ___60-69 ___70+	Wind: 0 X Calm 1 __Gentle (1-3 mph) 3 __ Light (4-7 mph) 5 __ Moderate (8-12 mph) 7 __ Strong (>12 mph)	Precip: 0___None 1___Mist 3___Snow, Hvy Rain 5 X Fog 7___Light Rain

Polygon ID: WARB 3-2	Town: Newmarket	Start Time: 5 : 39 am	End Time: 5 : 49 am

				10 Minute Point Count									
				Males				Females			Unknown		
Species Code				S	C	V	F	C	V	F	C	V	F
R	W	B	L			4							
C	O	Y	E	1									
G	R	C	A								1		
E	A	K	I									1	
N	O	C	A	2									
A	M	R	O	1									
V	E	E	R	1									
B	O	B	O			2							
B	L	J	A									1	

Piscassic & Lamprey River Watershed Wildlife Habitat Model Field Verification Surveys **Breeding Bird Point Counts**	Observers: Allison Briggaman and Fred Pinch Phone #: (603) 271-6544

Date of Survey: 6/25/2003 Month/Day/Year	Sky: 0 X Clear 1 __ ¼ Overcast 3__ ½ Overcast Add 22 minutes 5__ ¾ Overcast 7__ >3/4 Overcast – Add 15 minutes	Temp: ___35-39 ___40-49 X 50-59 ___60-69 ___70+	Wind: 0 X Calm 1 __Gentle (1-3 mph) 3 __ Light (4-7 mph) 5 __ Moderate (8-12 mph) 7 __ Strong (>12 mph)	Precip: 0___None 1 X Mist 3___Snow, Hvy Rain 5 __ Fog 7___Light Rain
Official Sunrise: 5 : 07 am				

Polygon ID: WARB 3-2	Town: Newmarket	Start Time: 6 : 03 am	End Time: 6 : 13 am

				10 Minute Point Count									
				Males				Females			Unknown		
Species Code				S	C	V	F	C	V	F	C	V	F
R	W	B	L								5		
C	O	Y	E	2									
A	M	C	O								1	1	
M	O	D	O	1									
G	R	C	A								1		
E	A	K	I									3	
B	A	O	R			1							
A	M	G	O			2							

Piscassic & Lamprey River Watershed Wildlife Habitat Model Field Verification Surveys **Breeding Bird Point Counts**				Observers: James Oehler, Allison Briggaman and Fred Pinch Phone #: (603) 271-6544
Date of Survey: 6/12/2003 Month/Day/Year Official Sunrise: 5 : 06 am	Sky: 0 __ Clear 1 X ¼ Overcast 3__ ½ Overcast Add 22 minutes 5__ ¾ Overcast 7__ >3/4 Overcast – Add 15 minutes	Temp: ___35-39 ___40-49 X 50-59 ___60-69 ___70+	Wind: 0 X Calm 1 __Gentle (1-3 mph) 3 __ Light (4-7 mph) 5 __ Moderate (8-12 mph) 7 __ Strong (>12 mph)	Precip: 0___None 1 __ Mist 3___Snow, Hvy Rain 5 X Fog 7___Light Rain
Polygon ID: WARB 3-3	Town: Newmarket	Start Time: 5 : 55 am	End Time: 6 : 05 am	

Species Code				10 Minute Point Count									
				Males				Females			Unknown		
				S	C	V	F	C	V	F	C	V	F
R	W	B	L								3		
C	O	Y	E	1									
A	M	R	O	3									
D	O	W	O								1		
E	A	K	I								1	1	
A	M	C	O								1	2	

Piscassic & Lamprey River Watershed Wildlife Habitat Model Field Verification Surveys **Breeding Bird Point Counts**	Observers: Allison Briggaman and Fred Pinch Phone #: (603) 271-6544

Date of Survey: 6/25/2003 Month/Day/Year Official Sunrise: 5 : 07 am	Sky: 0 X Clear 1 __ ¼ Overcast 3__ ½ Overcast Add 22 minutes 5__ ¾ Overcast 7__ >3/4 Overcast – Add 15 minutes	Temp: ___35-39 ___40-49 X 50-59 ___60-69 ___70+	Wind: 0 X Calm 1 __Gentle (1-3 mph) 3 __ Light (4-7 mph) 5 __ Moderate (8-12 mph) 7 __ Strong (>12 mph)	Precip: 0 X None 1 __ Mist 3___Snow, Hvy Rain 5___ Fog 7___Light Rain

Polygon ID: WARB 3-3	Town: Newmarket	Start Time: 6 : 34 am	End Time: 6 : 44 am

				10 Minute Point Count									
				Males				Females			Unknown		
Species Code				S	C	V	F	C	V	F	C	V	F
M	O	D	O									2	
R	W	B	L			2							
N	O	F	L								3		
C	O	Y	E	1									
N	O	C	A			1							
B	C	C	H								1		
R	B	G	R	1		1							
B	A	O	R			1							
A	M	G	O			2							

Piscassic & Lamprey River Watershed Wildlife Habitat Model Field Verification Surveys **Breeding Bird Point Counts**	Observers: James Oehler, Allison Briggaman and Fred Pinch Phone #: (603) 271-6544

Date of Survey: 6/12/2003 Month/Day/Year	Sky: 0 __ Clear 1 __ ¼ Overcast 3__ ½ Overcast Add 22 minutes 5 X ¾ Overcast 7__ >3/4 Overcast – Add 15 minutes	Temp: ___35-39 ___40-49 ___50-59 X 60-69 ___70+	Wind: 0 X Calm 1 __Gentle (1-3 mph) 3 __ Light (4-7 mph) 5 __ Moderate (8-12 mph) 7 __ Strong (>12 mph)	Precip: 0 X None 1 __ Mist 3___Snow, Hvy Rain 5___ Fog 7___Light Rain
Official Sunrise: 5 : 06 am				

Polygon ID: WARB 7-1	Town: Lee	Start Time: 8 : 13 am	End Time: 8 : 23 am

				10 Minute Point Count									
				Males				Females			Unknown		
Species Code				S	C	V	F	C	V	F	C	V	F
E	A	T	O		1	1							
O	V	E	N	1									
F	I	S	P	1									
C	O	Y	E	3									
B	C	C	H								1		
S	C	T	A	1									

Piscassic & Lamprey River Watershed Wildlife Habitat Model Field Verification Surveys **Breeding Bird Point Counts**	Observers: Allison Briggaman and Fred Pinch Phone #: (603) 271-6544

Date of Survey:	Sky:	Temp:	Wind:	Precip:
6/25/2003 Month/Day/Year	0 X Clear 1 __ ¼ Overcast 3__ ½ Overcast Add 22 minutes 5__ ¾ Overcast 7__ >3/4 Overcast – Add 15 minutes	___35-39 ___40-49 ___50-59 X 60-69 ___70+	0 X Calm 1 __Gentle (1-3 mph) 3 __ Light (4-7 mph) 5 __ Moderate (8-12 mph) 7 __ Strong (>12 mph)	0 X None 1 __ Mist 3___Snow, Hvy Rain 5___ Fog 7___Light Rain
Official Sunrise: 5 : 07 am				

Polygon ID:	Town:	Start Time:	End Time:
WARB 7-1	Lee	8 : 25 am	8 : 35 am

				10 Minute Point Count									
Species Code				Males				Females			Unknown		
				S	C	V	F	C	V	F	C	V	F
O	V	E	N	1									
G	R	C	A	1									
R	O	G	R	1									
B	L	J	A								1		
R	W	B	L			1							
A	M	G	O								1		
B	**W**	**W**	**A**	**1***									

* One blue-winged warbler was heard after point count as we were walking away from point. The bird was approximately 50 feet from the point.

Piscassic & Lamprey River Watershed Wildlife Habitat Model Field Verification Surveys **Breeding Bird Point Counts**	Observers: Allison Briggaman and Fred Pinch Phone #: (603) 271-6544

Date of Survey:	Sky:	Temp:	Wind:	Precip:
6/17/2003 Month/Day/Year	0 X Clear 1 __ ¼ Overcast 3__ ½ Overcast Add 22 minutes 5__ ¾ Overcast 7__ >3/4 Overcast – Add 15 minutes	___35-39 X 40-49 ___50-59 ___60-69 ___70+	0 X Calm 1 __Gentle (1-3 mph) 3 __ Light (4-7 mph) 5 __ Moderate (8-12 mph) 7 __ Strong (>12 mph)	0 X None 1 __ Mist 3___Snow, Hvy Rain 5___ Fog 7___Light Rain
Official Sunrise: 5 : 06 am				

Polygon ID:	Town:	Start Time:	End Time:
WARB 7-3	Lee	6 : 03 am	6 : 13 am

				10 Minute Point Count									
Species Code				Males				Females			Unknown		
				S	C	V	F	C	V	F	C	V	F
A	M	R	O	2									
O	V	E	N	1									
B	C	C	H								1		
R	W	B	L								1		
B	L	J	A								1		
G	R	C	A								1		
B	**W**	**W**	**A**	1									

Piscassic & Lamprey River Watershed Wildlife Habitat Model Field Verification Surveys **Breeding Bird Point Counts**	Observers: Allison Briggaman and Fred Pinch Phone #: (603) 271-6544

Date of Survey:	Sky:	Temp:	Wind:	Precip:
6/25/2003 Month/Day/Year	0 _X_ Clear 1 __ ¼ Overcast 3__ ½ Overcast Add 22 minutes 5__ ¾ Overcast 7__ >3/4 Overcast – Add 15 minutes	___35-39 ___40-49 ___50-59 _X 60-69 ___70+	0 X Calm 1 __Gentle (1-3 mph) 3 __ Light (4-7 mph) 5 __ Moderate (8-12 mph) 7 __ Strong (>12 mph)	0 X None 1 __ Mist 3___Snow, Hvy Rain 5___ Fog 7___Light Rain
Official Sunrise: 5 : 07 am				

Polygon ID:	Town:	Start Time:	End Time:
WARB 7-3	Lee	8 : 56 am	9 : 06 am

				10 Minute Point Count									
				Males				Females			Unknown		
Species Code				S	C	V	F	C	V	F	C	V	F
B	L	J	A								1		
R	O	G	R		1								
Y	B	S	A	1									
B	C	C	H								1		
G	R	C	A								1		
W	O	T	H	1									
A	M	G	O								1		
O	V	E	N	1									
C	O	Y	E	1									

Piscassic & Lamprey River Watershed Wildlife Habitat Model Field Verification Surveys **Breeding Bird Point Counts**	Observers: James Oehler, Allison Briggaman and Fred Pinch Phone #: (603) 271-6544

Date of Survey: 6/12/2003 Month/Day/Year Official Sunrise: 5 : 06 am	Sky: 0 __ Clear 1 __ ¼ Overcast 3__ ½ Overcast Add 22 minutes 5 X ¾ Overcast 7__ >3/4 Overcast – Add 15 minutes	Temp: ___35-39 ___40-49 _X 50-59 __ 60-69 ___70+	Wind: 0 X Calm 1 __Gentle (1-3 mph) 3 __ Light (4-7 mph) 5 __ Moderate (8-12 mph) 7 __ Strong (>12 mph)	Precip: 0 X None 1 __ Mist 3___Snow, Hvy Rain 5___ Fog 7___Light Rain

Polygon ID: WARB 8-1	Town: Newmarket/Tuttle Swamp	Start Time: 6 : 50 am	End Time: 7 : 00 am

				10 Minute Point Count									
				Males				Females			Unknown		
Species Code				S	C	V	F	C	V	F	C	V	F
M	O	D	O								2		
E	A	T	O	1									
A	M	C	O								1		
Y	E	W	A	1									
R	W	B	L			1							
E	A	K	I										2
C	O	G	R										1
F	I	S	P	2									
B	L	J	A								1	1	
C	E	D	W			1							
E	A	P	H	1								1	
A	M	R	O	1									

Piscassic & Lamprey River Watershed Wildlife Habitat Model Field Verification Surveys **Breeding Bird Point Counts**	Observers: Allison Briggaman and Fred Pinch Phone #: (603) 271-6544

Date of Survey:	Sky:	Temp:	Wind:	Precip:
6/25/2003 Month/Day/Year	0 X Clear 1 __ ¼ Overcast 3__ ½ Overcast Add 22 minutes 5 __ ¾ Overcast 7__ >3/4 Overcast – Add 15 minutes	___35-39 ___40-49 ___50-59 X_60-69 ___70+	0 X Calm 1 __Gentle (1-3 mph) 3 __ Light (4-7 mph) 5 __ Moderate (8-12 mph) 7 __ Strong (>12 mph)	0 X None 1 __ Mist 3___Snow, Hvy Rain 5___ Fog 7___Light Rain
Official Sunrise: 5 : 07 am				

Polygon ID:	Town:	Start Time:	End Time:
WARB 8-1	Newmarket/Tuttle Swamp	7 : 30 am	7 : 40 am

				10 Minute Point Count									
Species Code				Males				Females			Unknown		
				S	C	V	F	C	V	F	C	V	F
B	**W**	**W**	**A**	**2**									
R	W	B	L			1					2		
R	O	G	R	1									
M	O	D	O								1		
A	M	G	O			1							
A	M	C	O								1		
O	V	E	N	1									
C	E	W	A	1									

Piscassic & Lamprey River Watershed Wildlife Habitat Model Field Verification Surveys **Breeding Bird Point Counts**	Observers: James Oehler and Allison Briggaman Phone #: (603) 271-6544

Date of Survey:	Sky:	Temp:	Wind:	Precip:
6/12/2003 Month/Day/Year	0 __ Clear 1 __ ¼ Overcast 3__ ½ Overcast Add 22 minutes 5 X ¾ Overcast 7__ >3/4 Overcast – Add 15 minutes	___35-39 ___40-49 _X 50-59 __ 60-69 ___70+	0 X Calm 1 __Gentle (1-3 mph) 3 __ Light (4-7 mph) 5 __ Moderate (8-12 mph) 7 __ Strong (>12 mph)	0 X None 1 __ Mist 3___Snow, Hvy Rain 5___ Fog 7___Light Rain
Official Sunrise: 5 : 06 am				

Polygon ID:	Town:	Start Time:	End Time:
WARB 8-2	Newmarket/Tuttle Swamp	7 : 15 am	7 : 25 am

				10 Minute Point Count									
Species Code				Males				Females			Unknown		
				S	C	V	F	C	V	F	C	V	F
A	M	R	O	1									
E	A	T	O	1									
C	O	Y	E	1									
R	W	B	L			6			1		1		
E	A	P	H	1									
C	E	D	W									1	
Y	E	W	A	2									
B	**W**	**W**	**A**									1	
N	O	C	A	2									
F	I	S	P	1									
A	M	C	R								1		
G	B	H	E										1

Piscassic & Lamprey River Watershed Wildlife Habitat Model Field Verification Surveys **Breeding Bird Point Counts**	Observers: Allison Briggaman and Fred Pinch Phone #: (603) 271-6544

Date of Survey:	Sky:	Temp:	Wind:	Precip:
6/25/2003 Month/Day/Year	0 X Clear 1 __ ¼ Overcast 3__ ½ Overcast Add 22 minutes 5 __ ¾ Overcast 7__ >3/4 Overcast – Add 15 minutes	___35-39 ___40-49 ___50-59 X 60-69 ___70+	0 X Calm 1 __Gentle (1-3 mph) 3 __ Light (4-7 mph) 5 __ Moderate (8-12 mph) 7 __ Strong (>12 mph)	0 X None 1 __ Mist 3___Snow, Hvy Rain 5___ Fog 7___Light Rain
Official Sunrise: 5 :07 am				

Polygon ID:	Town:	Start Time:	End Time:
WARB 8-2	Newmarket/Tuttle Swamp	7 : 46 am	7 : 56 am

				10 Minute Point Count									
Species Code				Males				Females			Unknown		
				S	C	V	F	C	V	F	C	V	F
R	W	B	L								3		
R	U	T	O	2									
B	**W**	**W**	**A**	1		1							
O	V	E	N	1									
V	E	E	R	1									
C	O	Y	E	1									
Y	E	W	A			1							

Piscassic & Lamprey River Watershed Wildlife Habitat Model Field Verification Surveys **Breeding Bird Point Counts**	Observers: Allison Briggaman and Fred Pinch Phone #: (603) 271-6544

Date of Survey:	Sky:	Temp:	Wind:	Precip:
6/17/2003 Month/Day/Year	0 X Clear 1 __ ¼ Overcast 3__ ½ Overcast Add 22 minutes 5__¾ Overcast 7__ >3/4 Overcast – Add 15 minutes	___35-39 ___40-49 X 50-59 ___60-69 ___70+	0 X Calm 1 __Gentle (1-3 mph) 3 __ Light (4-7 mph) 5 __ Moderate (8-12 mph) 7 __ Strong (>12 mph)	0 X None 1 __ Mist 3___Snow, Hvy Rain 5___ Fog 7___Light Rain
Official Sunrise: 5 : 06 am				

Polygon ID:	Town:	Start Time:	End Time:
WARB 10-1	Epping	7 : 42 am	7 : 52 am

				10 Minute Point Count									
Species Code				Males				Females			Unknown		
				S	C	V	F	C	V	F	C	V	F
B	L	J	A								1		
R	W	B	L								1		
A	M	R	O	1									
B	A	W	W	1									
E	A	K	I									1	

Piscassic & Lamprey River Watershed Wildlife Habitat Model Field Verification Surveys **Breeding Bird Point Counts**	Observers: James Oehler and Fred Pinch Phone #: (603) 271-6544

Date of Survey: 6/24/2003 Month/Day/Year Official Sunrise: 5 : 07 am	Sky: 0 X Clear 1 __ ¼ Overcast 3__ ½ Overcast Add 22 minutes 5__¾ Overcast 7__ >3/4 Overcast – Add 15 minutes	Temp: ___35-39 ___40-49 ___ 50-59 X 60-69 ___70+	Wind: 0 X Calm 1 __Gentle (1-3 mph) 3 __ Light (4-7 mph) 5 __ Moderate (8-12 mph) 7 __ Strong (>12 mph)	Precip: 0 X None 1 __ Mist 3___Snow, Hvy Rain 5___ Fog 7___Light Rain

Polygon ID: WARB 10-1	Town: Epping	Start Time: 5 : 21 am	End Time: 5 : 31 am

Species Code				10 Minute Point Count									
				Males				Females			Unknown		
				S	C	V	F	C	V	F	C	V	F
E	A	T	O	1									
A	M	R	O	1									
A	M	C	R								1		
Y	E	W	A	2									
C	O	G	R								1		
G	R	C	A								1		
R	W	B	L										1
R	B	G	R	2									
B	A	W	W								1		

Piscassic & Lamprey River Watershed Wildlife Habitat Model Field Verification Surveys **Breeding Bird Point Counts**	Observers: Allison Briggaman and Fred Pinch Phone #: (603) 271-6544

Date of Survey:	Sky:	Temp:	Wind:	Precip:
6/17/2003 Month/Day/Year	0 X Clear 1 __ ¼ Overcast 3__ ½ Overcast Add 22 minutes 5__¾ Overcast 7__ >3/4 Overcast – Add 15 minutes	___35-39 ___40-49 X 50-59 ___60-69 ___70+	0 X Calm 1 __Gentle (1-3 mph) 3 __ Light (4-7 mph) 5 __ Moderate (8-12 mph) 7 __ Strong (>12 mph)	0 X None 1 __ Mist 3___Snow, Hvy Rain 5___ Fog 7___Light Rain
Official Sunrise: 5 : 06 am				

Polygon ID:	Town:	Start Time:	End Time:
WARB 10-2	Epping	8 : 09 am	8 : 19 am

				10 Minute Point Count									
Species Code				Males				Females			Unknown		
				S	C	V	F	C	V	F	C	V	F
C	O	Y	E	1									
B	L	J	A								1		
A	M	R	O	1									
B	**W**	**W**	**A**	**2***									
G	R	C	A								1		
C	H	S	W									1	
A	M	C	O								1		

* One blue-winged warbler was heard as approaching the point, but still within the polygon and a second blue-winged warbler was heard at the point during the survey.

Piscassic & Lamprey River Watershed Wildlife Habitat Model Field Verification Surveys **Breeding Bird Point Counts**	Observers: James Oehler and Fred Pinch Phone #: (603) 271-6544

Date of Survey:	Sky:	Temp:	Wind:	Precip:
6/24/2003 Month/Day/Year	0 X Clear 1 __ ¼ Overcast 3__ ½ Overcast Add 22 minutes 5__¾ Overcast 7__ >3/4 Overcast – Add 15 minutes	___35-39 ___40-49 ___ 50-59 X 60-69 ___70+	0 X Calm 1 __Gentle (1-3 mph) 3 __ Light (4-7 mph) 5 __ Moderate (8-12 mph) 7 __ Strong (>12 mph)	0 X None 1 __ Mist 3___Snow, Hvy Rain 5___ Fog 7___Light Rain
Official Sunrise: 5 : 07 am				

Polygon ID:	Town:	Start Time:	End Time:
WARB 10-2	Epping	5 : 46 am	5 : 56 am

				10 Minute Point Count									
Species Code				Males				Females			Unknown		
				S	C	V	F	C	V	F	C	V	F
V	E	E	R	1									
C	O	Y	E	2									
R	W	B	L			1	1				1		
S	O	S	P	2									
A	M	R	O	1									
A	M	C	R								1		
B	C	C	H								1		
A	M	G	O								2		
E	A	T	O	1									
R	B	G	R	1									
B	L	J	A								1		
E	A	K	I									1	
B	**W**	**W**	**A**	**1***									

* One blue-winged warbler was heard after survey while walking back to car.

Piscassic & Lamprey River Watershed Wildlife Habitat Model Field Verification Surveys **Breeding Bird Point Counts**	Observer: Allison Briggaman Phone #: (603) 271-6544

Date of Survey:	Sky:	Temp:	Wind:	Precip:
6/10/2003 Month/Day/Year	0 X Clear 1 __ ¼ Overcast 3__ ½ Overcast Add 22 minutes 5__¾ Overcast 7__ >3/4 Overcast – Add 15 minutes	___35-39 ___40-49 _X 50-59 __ 60-69 ___70+	0 __ Calm 1 X Gentle (1-3 mph) 3 __ Light (4-7 mph) 5 __ Moderate (8-12 mph) 7 __ Strong (>12 mph)	0 X None 1 __ Mist 3___Snow, Hvy Rain 5___ Fog 7___Light Rain
Official Sunrise: 5 : 06 am				

Polygon ID:	Town:	Start Time:	End Time:
WARB 14-1	Epping	6 : 55 am	7 : 05 am

				10 Minute Point Count									
Species Code				Males				Females			Unknown		
				S	C	V	F	C	V	F	C	V	F
C	O	Y	E	1									
B	T	N	W	1									
M	O	D	O								1		
A	M	R	O	1									
N	O	F	L								1		

Piscassic & Lamprey River Watershed
Wildlife Habitat Model Field Verification Surveys
Breeding Bird Point Counts

Observer: Allison Briggaman and Fred Pinch

Phone #: (603) 271-6544

Date of Survey:	Sky:	Temp:	Wind:	Precip:
6/18/2003 Month/Day/Year	0__ Clear 1 __ ¼ Overcast 3__ ½ Overcast Add 22 minutes 5 X ¾ Overcast 7__ >3/4 Overcast – Add 15 minutes	___35-39 ___40-49 _X 50-59 __ 60-69 ___70+	0 X Calm 1 __ Gentle (1-3 mph) 3 __ Light (4-7 mph) 5 __ Moderate (8-12 mph) 7 __ Strong (>12 mph)	0 X None 1 __ Mist 3___Snow, Hvy Rain 5___ Fog 7___Light Rain
Official Sunrise: 5 : 06 am				

Polygon ID:	Town:	Start Time:	End Time:
WARB 14-1	Epping	8 : 35 am	8 : 45 am

Species Code				10 Minute Point Count									
				Males				Females			Unknown		
				S	C	V	F	C	V	F	C	V	F
B	L	J	A								1		
G	R	C	A								1		
A	M	G	O								1		
M	O	D	O								1		
N	O	C	A	1									
C	E	D	W	1									
B	C	C	H									1	
R	E	V	I									1	
N	O	F	L									1	

Piscassic & Lamprey River Watershed Wildlife Habitat Model Field Verification Surveys **Breeding Bird Point Counts**	Observer: Allison Briggaman Phone #: (603) 271-6544

Date of Survey:	Sky:	Temp:	Wind:	Precip:
6/10/2003 Month/Day/Year	0__ Clear	___35-39	0 __ Calm	0 X None
Official Sunrise:	1 _X_ ¼ Overcast	___40-49	1 X Gentle (1-3 mph)	1 __ Mist
5 : 06 am	3__ ½ Overcast Add 22 minutes	_X 50-59	3 __ Light (4-7 mph)	3___Snow, Hvy Rain
	5__¾ Overcast	__ 60-69	5 __ Moderate (8-12 mph)	5___ Fog
	7__ >3/4 Overcast – Add 15 minutes	___70+	7 __ Strong (>12 mph)	7___Light Rain

Polygon ID:	Town:	Start Time:	End Time:
WARB 17-1	Raymond	7 : 50 am	8 : 00 am

				10 Minute Point Count									
Species Code				Males				Females			Unknown		
				S	C	V	F	C	V	F	C	V	F
G	R	C	A									1	
N	O	C	A	1									

Piscassic & Lamprey River Watershed Wildlife Habitat Model Field Verification Surveys **Breeding Bird Point Counts**				Observer: Allison Briggaman and Fred Pinch Phone #: (603) 271-6544
Date of Survey: 6/18/2003 Month/Day/Year Official Sunrise: 5 : 06 am	Sky: 0__ Clear 1 _X_ ¼ Overcast 3__ ½ Overcast Add 22 minutes 5 __ ¾ Overcast 7__ >3/4 Overcast – Add 15 minutes	Temp: ___35-39 ___40-49 _X 50-59 __ 60-69 ___70+	Wind: 0 X Calm 1 __ Gentle (1-3 mph) 3 __ Light (4-7 mph) 5 __ Moderate (8-12 mph) 7 __ Strong (>12 mph)	Precip: 0 X None 1 __ Mist 3___Snow, Hvy Rain 5___ Fog 7___Light Rain
Polygon ID: WARB 17-1	Town: Raymond	Start Time: 6 : 40 am	End Time: 6 : 50 am	

				10 Minute Point Count									
Species Code				Males				Females			Unknown		
				S	C	V	F	C	V	F	C	V	F
B	C	C	H								1		
A	M	R	O	1									
A	M	C	O								1		
C	O	Y	E	1									
A	M	G	O								1		
O	V	E	N	1									

Piscassic & Lamprey River Watershed Wildlife Habitat Model Field Verification Surveys **Breeding Bird Point Counts**	Observer: Allison Briggaman and Fred Pinch Phone #: (603) 271-6544

Date of Survey:	Sky:	Temp:	Wind:	Precip:
6/18/2003 Month/Day/Year	0__ Clear 1 _X_ ¼ Overcast 3__ ½ Overcast Add 22 minutes 5 __ ¾ Overcast 7__ >3/4 Overcast – Add 15 minutes	___35-39 ___40-49 _X 50-59 __ 60-69 ___70+	0 X Calm 1 __ Gentle (1-3 mph) 3 __ Light (4-7 mph) 5 __ Moderate (8-12 mph) 7 __ Strong (>12 mph)	0 X None 1 __ Mist 3___Snow, Hvy Rain 5___ Fog 7___Light Rain
Official Sunrise: 5 : 06 am				

Polygon ID:	Town:	Start Time:	End Time:
WARB 18-1	Candia	5 : 15 am	5 : 25 am

				10 Minute Point Count									
Species Code				Males				Females			Unknown		
				S	C	V	F	C	V	F	C	V	F
B	A	W	W	1									
O	V	E	N	1									
W	O	T	H	1									
V	E	E	R	1									
B	C	C	H								1		
S	C	T	A	1									
B	T	N	W	1									
C	O	Y	E	1									
G	R	C	A								1		

Piscassic & Lamprey River Watershed Wildlife Habitat Model Field Verification Surveys **Breeding Bird Point Counts**	Observer: James Oehler and Fred Pinch Phone #: (603) 271-6544

Date of Survey:	Sky:	Temp:	Wind:	Precip:
6/24/2003 Month/Day/Year	0_X_ Clear 1 __ ¼ Overcast 3__ ½ Overcast Add 22 minutes 5 __ ¾ Overcast 7__ >3/4 Overcast – Add 15 minutes	___35-39 ___40-49 __ 50-59 X 60-69 ___70+	0 X Calm 1 __ Gentle (1-3 mph) 3 __ Light (4-7 mph) 5 __ Moderate (8-12 mph) 7 __ Strong (>12 mph)	0 X None 1 __ Mist 3___Snow, Hvy Rain 5___ Fog 7___Light Rain
Official Sunrise: 5 : 07 am				

Polygon ID:	Town:	Start Time:	End Time:
WARB 18-1	Candia	6 : 53 am	7 : 03 am

				10 Minute Point Count									
Species Code				Males				Females			Unknown		
				S	C	V	F	C	V	F	C	V	F
C	O	Y	E	2									
A	M	C	R								2		
B	A	W	W	1									
O	V	E	N	1									
W	O	T	H	1									
E	A	T	O								1		
C	S	W	A	2								1	
B	C	C	H								2		
S	C	T	A	1									
A	M	G	O								1		

Piscassic & Lamprey River Watershed Wildlife Habitat Model Field Verification Surveys **Breeding Bird Point Counts**	Observer: Allison Briggaman and Fred Pinch Phone #: (603) 271-6544

Date of Survey:	Sky:	Temp:	Wind:	Precip:
6/18/2003 Month/Day/Year	0__ Clear 1 X ¼ Overcast 3__ ½ Overcast Add 22 minutes 5 __ ¾ Overcast 7__ >3/4 Overcast – Add 15 minutes	___35-39 ___40-49 X 50-59 __ 60-69 ___70+	0 X Calm 1 __ Gentle (1-3 mph) 3 __ Light (4-7 mph) 5 __ Moderate (8-12 mph) 7 __ Strong (>12 mph)	0 X None 1 __ Mist 3___Snow, Hvy Rain 5___ Fog 7___Light Rain
Official Sunrise: 5 : 06 am				

Polygon ID:	Town:	Start Time:	End Time:
WARB 18-2	Candia	5 : 38 am	5 : 48 am

				10 Minute Point Count									
Species Code				Males				Females			Unknown		
				S	C	V	F	C	V	F	C	V	F
R	W	B	L								4		
B	A	W	W			1							
S	C	T	A	1									
A	M	C	O								1		
C	O	Y	E	2									
W	O	T	H	1									
R	B	N	U	1									
C	S	W	A	1		1							

Piscassic & Lamprey River Watershed
Wildlife Habitat Model Field Verification Surveys
Breeding Bird Point Counts

Observer: James Oehler and Fred Pinch

Phone #: (603) 271-6544

Date of Survey:	Sky:	Temp:	Wind:	Precip:
6/24/2003 Month/Day/Year	0 X Clear 1 __ ¼ Overcast 3__ ½ Overcast Add 22 minutes 5 __ ¾ Overcast 7__ >3/4 Overcast – Add 15 minutes	___35-39 ___40-49 ___50-59 X 60-69 ___70+	0 X Calm 1 __ Gentle (1-3 mph) 3 __ Light (4-7 mph) 5 __ Moderate (8-12 mph) 7 __ Strong (>12 mph)	0 X None 1 __ Mist 3___Snow, Hvy Rain 5___ Fog 7___Light Rain
Official Sunrise: 5 : 07 am				

Polygon ID:	Town:	Start Time:	End Time:
WARB 18-2	Candia	7 : 11 am	7 : 21 am

				10 Minute Point Count									
Species Code				Males				Females			Unknown		
				S	C	V	F	C	V	F	C	V	F
B	H	C	O									3	
B	A	W	W			1							
C	S	W	A	2									
B	C	C	H								1		
E	W	P	E	2									
E	A	T	O								1		
R	W	B	L								1		
B	L	J	A								1		
C	O	Y	E	1									
W	O	T	H	1									
V	E	E	R	1									

Piscassic & Lamprey River Watershed Wildlife Habitat Model Field Verification Surveys **Wetland Bird Broadcast Counts**	Observer: Laura Deming Phone #:

Date of Survey: 5/21/2003 Month/Day/Year Official Sunrise: 05 : 17 am	Sky: 0 ___ Clear 1 ___¼ Overcast 3___ ½ Overcast Add 22 minutes 5___ ¾ Overcast 7 X >3/4 Overcast – Add 15 minutes	Temp: ___35-39 ___40-49 X 50-59 ___60-69 ___70+	Wind: 0 X Calm 1 __Gentle (1-3 mph) 3 __ Light (4-7 mph) 5 __ Moderate (8-12 mph) 7 __ Strong (>12 mph)	Precip: 0 X None 1___Mist 3___Snow, Hvy Rain 5___Fog 7___Light Rain

Polygon ID:	Town:	Start Time:	End Time:
WTBD 2-1	Raymond	7:30 am	7:33 am

Point Survey Start Time: 7:30 am End Time: 7:33 am

Species Code	Number Observed	Species Code	Number Observed	Species Code	Number Observed
SOSP	1	OVEN	1		
PRAW	1	BCCH	1		
COYE	1	SWSP	1		
RWBL	1				
BAOR	1				
GRCA	1				
EATO	1				
MODO	1				
PIWA	1				
BAWW	1				
AMGO	1				
ALFL	1				

Broadcast Survey Start Time: N/A End Time: N/A

Species Code	Number Observed	Species Code	Number Observed	Species Code	Number Observed

Piscassic & Lamprey River Watershed Wildlife Habitat Model Field Verification Surveys **Wetland Bird Broadcast Counts**	Observers: Laura Deming & Allison Briggaman Phone #:

Date of Survey: 7/14/2003 Month/Day/Year Official Sunset: 8 : 25 pm	Sky: 0 __ Clear 1 __ ¼ Overcast 3__ ½ Overcast Add 22 minutes 5__ ¾ Overcast 7 X >3/4 Overcast – Add 15 minutes	Temp: ___35-39 ___40-49 ___50-59 ___60-69 X 70+	Wind: 0 X Calm 1 __Gentle (1-3 mph) 3 __ Light (4-7 mph) 5 __ Moderate (8-12 mph) 7 __ Strong (>12 mph)	Precip: 0 X None 1___Mist 3___Snow, Hvy Rain 5___Fog 7___Light Rain

Polygon ID: WTBD 2-1	Town: Raymond	Start Time: 5:53 pm	End Time: 6:10 pm

Point Survey Start Time: 5:53 pm End Time: 5:56 pm

Species Code	Number Observed	Species Code	Number Observed	Species Code	Number Observed
VEER	1				
GRCA	1				
EATO	1				
SWSP	1				
SOSP	1				
AMGO	1				
RWBL	1				

Broadcast Survey Start Time: 5:57 pm End Time: 6:10 pm

Species Code	Number Observed	Species Code	Number Observed	Species Code	Number Observed
CHSP	1	BHCO	1		
AMCR	1	BCCH	1		
CEDW	1				
COYE	1				

Piscassic & Lamprey River Watershed Wildlife Habitat Model Field Verification Surveys **Wetland Bird Broadcast Counts**	Observers: Laura Deming & Allison Briggaman Phone #:

Date of Survey:	Sky:	Temp:	Wind:	Precip:
7/14/2003 Month/Day/Year	0 __ Clear 1 __ ¼ Overcast 3__ ½ Overcast Add 22 minutes 5__ ¾ Overcast 7 X >3/4 Overcast – Add 15 minutes	___35-39 ___40-49 ___50-59 ___60-69 X 70+	0 X Calm 1 __Gentle (1-3 mph) 3 __ Light (4-7 mph) 5 __ Moderate (8-12 mph) 7 __ Strong (>12 mph)	0 X None 1 __ Mist 3___Snow, Hvy Rain 5___ Fog 7___Light Rain
Official Sunset: 8 : 25 pm				

Polygon ID:	Town:	Start Time:	End Time:
WTBD 2-2	Raymond	6:24 pm	6:27 pm

Point Survey Start Time: 6:24 pm End Time: 6:27 pm

Species Code	Number Observed	Species Code	Number Observed	Species Code	Number Observed
SOSP	1				
RWBL	1				
AMGO	1				
BLJA	1				
GTBH	1				
REVI	1				
CHSP	1				
BCCH	1				
COYE	1				
VEER	1				
AMRO	1				
SCTA	1				

Broadcast Survey Start Time: N/A End Time: N/A

Species Code	Number Observed	Species Code	Number Observed	Species Code	Number Observed

Piscassic & Lamprey River Watershed Wildlife Habitat Model Field Verification Surveys **Wetland Bird Broadcast Counts**	Observer: Laura Deming Phone #:

Date of Survey:	Sky:	Temp:	Wind:	Precip:
5/21/2003 Month/Day/Year	0 __ Clear 1 __ ¼ Overcast 3__ ½ Overcast Add 22 minutes 5___ ¾ Overcast 7 X >3/4 Overcast – Add 15 minutes	___35-39 ___40-49 X 50-59 ___60-69 ___70+	0 X Calm 1 __Gentle (1-3 mph) 3 __ Light (4-7 mph) 5 __ Moderate (8-12 mph) 7 __ Strong (>12 mph)	0 X None 1___Mist 3___Snow, Hvy Rain 5___Fog 7___Light Rain
Official Sunrise: 05 : 17 am				

Polygon ID:	Town:	Start Time:	End Time:
WTBD 2-3	Raymond	8:14 am	8:17 am

Point Survey Start Time: 7:30 am End Time: 7:33 am

Species Code	Number Observed	Species Code	Number Observed	Species Code	Number Observed
MALL	1				
YWAR	1				

Broadcast Survey Start Time: N/A End Time: N/A

Species Code	Number Observed	Species Code	Number Observed	Species Code	Number Observed

Piscassic & Lamprey River Watershed Wildlife Habitat Model Field Verification Surveys **Wetland Bird Broadcast Counts**	Observers: Laura Deming & Allison Briggaman Phone #:

Date of Survey: 7/14/2003 Month/Day/Year Official Sunset: 8 : 25 pm	Sky: 0 __ Clear 1 __ ¼ Overcast 3__ ½ Overcast Add 22 minutes 5__ ¾ Overcast 7 X >3/4 Overcast – Add 15 minutes	Temp: ___35-39 ___40-49 ___50-59 ___60-69 X 70+	Wind: 0 X Calm 1 __Gentle (1-3 mph) 3 __ Light (4-7 mph) 5 __ Moderate (8-12 mph) 7 __ Strong (>12 mph)	Precip: 0 X None 1 __ Mist 3___Snow, Hvy Rain 5___ Fog 7___Light Rain

Polygon ID:	Town:	Start Time:	End Time:
WTBD 2-3	Raymond	6:47 pm	7:03 pm

Point Survey Start Time: 6:47 pm End Time: 6:50 pm

Species Code	Number Observed	Species Code	Number Observed	Species Code	Number Observed
SOSP	1				
VEER	1				
RWBL	1				
COYE	1				
AMGO	1				

Broadcast Survey Start Time: 6:50 pm End Time: 7:03 pm

Species Code	Number Observed	Species Code	Number Observed	Species Code	Number Observed
BLJA	1				
REVI	1				
GRCA	1				

Piscassic & Lamprey River Watershed Wildlife Habitat Model Field Verification Surveys **Wetland Bird Broadcast Counts**	Observer: Laura Deming Phone #:

Date of Survey:	Sky:	Temp:	Wind:	Precip:
5/21/2003 Month/Day/Year	0 __ Clear 1 __ ¼ Overcast 3__ ½ Overcast Add 22 minutes 5___ ¾ Overcast 7 X >3/4 Overcast – Add 15 minutes	___35-39 ___40-49 X 50-59 ___60-69 ___70+	0 __ Calm 1 X Gentle (1-3 mph) 3 __ Light (4-7 mph) 5 __ Moderate (8-12 mph) 7 __ Strong (>12 mph)	0 X None 1 __ Mist 3___Snow, Hvy Rain 5___ Fog 7___Light Rain
Official Sunrise: 05 : 17 am				

Polygon ID:	Town:	Start Time:	End Time:
WTBD 2-4	Raymond	8:43 am	8:46 am

Point Survey Start Time: 8:43 am End Time: 8:46 am

Species Code	Number Observed	Species Code	Number Observed	Species Code	Number Observed
GTBH	1				
REVI	1				

Broadcast Survey Start Time: N/A End Time: N/A

Species Code	Number Observed	Species Code	Number Observed	Species Code	Number Observed

Piscassic & Lamprey River Watershed Wildlife Habitat Model Field Verification Surveys **Wetland Bird Broadcast Counts**	Observers: Laura Deming & Allison Briggaman Phone #:

Date of Survey: 7/14/2003 Month/Day/Year Official Sunset: 8 : 25 pm	Sky: 0 __ Clear 1 __ ¼ Overcast 3__ ½ Overcast Add 22 minutes 5__ ¾ Overcast 7 X >3/4 Overcast – Add 15 minutes	Temp: ___35-39 ___40-49 ___50-59 ___60-69 X 70+	Wind: 0 X Calm 1 __Gentle (1-3 mph) 3 __ Light (4-7 mph) 5 __ Moderate (8-12 mph) 7 __ Strong (>12 mph)	Precip: 0 X None 1 __ Mist 3___Snow, Hvy Rain 5___ Fog 7___Light Rain

Polygon ID: WTBD 2-4	Town: Raymond	Start Time: 7:10 pm	End Time: 7:13 pm

Point Survey Start Time: 7:10 pm End Time: 7:13 pm

Species Code	Number Observed	Species Code	Number Observed	Species Code	Number Observed
AMRO	1				
SOTA	1				
COYE	1				
GTBH	1				
RWBL	1				
GRCA	1				
RBGR	1				
BLJA	1				
ETTI	1				
AMGO	1				
BAWW	1				
INBU	1				

Broadcast Survey Start Time: N/A End Time: N/A

Species Code	Number Observed	Species Code	Number Observed	Species Code	Number Observed

Piscassic & Lamprey River Watershed Wildlife Habitat Model Field Verification Surveys **Wetland Bird Broadcast Counts**	Observer: Laura Deming Phone #:

Date of Survey: 6/9/2003 Month/Day/Year	Sky: 0___Clear 1___¼ Overcast 3___½ Overcast Add 22 minutes 5___¾ Overcast 7 X >3/4 Overcast – Add 15 minutes	Temp: ___35-39 ___40-49 ___50-59 X 60-69 __70+	Wind: 0 X Calm 1 __Gentle (1-3 mph) 3 __ Light (4-7 mph) 5 __ Moderate (8-12 mph) 7 __ Strong (>12 mph)	Precip: 0 X None 1 __ Mist 3___Snow, Hvy Rain 5___ Fog 7___Light Rain
Official Sunrise: 05 : 06 am				

Polygon ID: WTBD 3-1	Town: Raymond	Start Time: 8:12 am	End Time: 8:29 am

Point Survey Start Time: 8:12 am End Time: 8:15 am

Species Code	Number Observed	Species Code	Number Observed	Species Code	Number Observed
RWBL	1	CAGO	1		
LEFL	1	CHSP	1		
EWPE	1	AMGO	1		
EAKI	1	BCCH	1		
PIWA	1	OVEN	1		
YWAR	1	MODO	1		
CORE	1				
TRES	1				
COYE	1				
RBGR	1				
SOSP	1				
MALL	1				

Broadcast Survey Start Time: 8:16 am End Time: 8:29 am

Species Code	Number Observed	Species Code	Number Observed	Species Code	Number Observed
GCFL	1				
GTBH	1				
CEDW	1				
BTNW	1				

Piscassic & Lamprey River Watershed Wildlife Habitat Model Field Verification Surveys **Wetland Bird Broadcast Counts**	Observers: Laura Deming & Allison Briggaman Phone #:

Date of Survey:	Sky:	Temp:	Wind:	Precip:
7/15/2003 Month/Day/Year	0 X Clear 1___¼ Overcast 3___½ Overcast Add 22 minutes 5___¾ Overcast 7___>3/4 Overcast – Add 15 minutes	___35-39 ___40-49 ___50-59 ___60-69 X 70+	0___Calm 1___Gentle (1-3 mph) 3 X Light (4-7 mph) 5___Moderate (8-12 mph) 7___Strong (>12 mph)	0 X None 1 __ Mist 3___Snow, Hvy Rain 5___ Fog 7___Light Rain
Official Sunset: 8 : 24 pm				

Polygon ID:	Town:	Start Time:	End Time:
WTBD 3-1	Raymond	7:15 pm	7:39 pm

Point Survey Start Time: 7:15 pm End Time: 7:18 pm

Species Code	Number Observed	Species Code	Number Observed	Species Code	Number Observed
AMGO	1				
SOSP	1				
RWBL	1				
BTNW	1				
EAPH	1				
GTBH	1				
SCTA	1				

Broadcast Survey Start Time: 7:26 pm End Time: 7:39 pm

Species Code	Number Observed	Species Code	Number Observed	Species Code	Number Observed
AMRO	1				
CHSP	1				
GTBH	1				
EAKI	1				
WBNU	1				

Piscassic & Lamprey River Watershed Wildlife Habitat Model Field Verification Surveys **Wetland Bird Broadcast Counts**	Observer: Laura Deming Phone #:

Date of Survey:	Sky:	Temp:	Wind:	Precip:
5/22/2003 Month/Day/Year	0 __ Clear 1 __ ¼ Overcast 3__ ½ Overcast Add 22 minutes 5__ ¾ Overcast 7 X >3/4 Overcast – Add 15 minutes	___35-39 ___40-49 X 50-59 ___60-69 ___70+	0 __ Calm 1 __Gentle (1-3 mph) 3 X Light (4-7 mph) 5 __ Moderate (8-12 mph) 7 __ Strong (>12 mph)	0 X None 1 __ Mist 3___Snow, Hvy Rain 5___ Fog 7___Light Rain
Official Sunrise: 5 : 16 am				

Polygon ID:	Town:	Start Time:	End Time:
WTBD 4-1	Raymond	7:20 am	7:37 am

Point Survey Start Time: 7:20 am End Time: 7:23 am

Species Code	Number Observed	Species Code	Number Observed	Species Code	Number Observed
GCFL	1				
AMCR	1				
SCTA	1				
OVEN	1				
COYE	1				
BCCH	1				
ETTI	1				
COLO	1				

Broadcast Survey Start Time: 7:24 am End Time: 7:37 am

Species Code	Number Observed	Species Code	Number Observed	Species Code	Number Observed
PWFI	1				
EVGR	1				
NOFL	1				
AMGO	1				
WOTH	1				

Piscassic & Lamprey River Watershed Wildlife Habitat Model Field Verification Surveys **Wetland Bird Broadcast Counts**	Observers: Laura Deming & Allison Briggaman Phone #:

Date of Survey: 7/29/2003 Month/Day/Year Official Sunset: 8 : 12 pm	Sky: 0 X Clear 1___¼ Overcast 3___½ Overcast Add 22 minutes 5___¾ Overcast 7___>3/4 Overcast – Add 15 minutes	Temp: ___35-39 ___40-49 ___50-59 ___60-69 X 70+	Wind: 0 X Calm 1 __Gentle (1-3 mph) 3 __ Light (4-7 mph) 5 __ Moderate (8-12 mph) 7 __ Strong (>12 mph)	Precip: 0 X None 1 __ Mist 3___Snow, Hvy Rain 5___ Fog 7___Light Rain

Polygon ID: WTBD 6-1	Town: Epping	Start Time: 7 : 51 pm	End Time: 8 :07 pm

Point Survey Start Time: 7:51 pm End Time: 7:54 pm

Species Code				Number Observed	Species Code				Number Observed	Species Code				Number Observed
R	W	B	L	1										
A	M	G	O	4										
A	M	R	O	1										
S	W	S	P	1										
C	O	G	R	1										
W	O	T	H	1										

Broadcast Survey Start Time: 7:54 pm End Time: 8:07 pm

Species Code				Number Observed	Species Code				Number Observed	Species Code				Number Observed
G	T	B	H	1	R	W	B	L	16					
C	E	D	W	2	C	O	G	R	50					
B	C	C	H	2										
T	R	E	S	8										

Piscassic & Lamprey River Watershed Wildlife Habitat Model Field Verification Surveys **Wetland Bird Broadcast Counts**	Observer: James Oehler & Allison Briggaman Phone #:

Date of Survey:	Sky:	Temp:	Wind:	Precip:
7/1/2003 Month/Day/Year	0 X Clear 1 __ ¼ Overcast 3__ ½ Overcast Add 22 minutes 5__ ¾ Overcast 7__ >3/4 Overcast – Add 15 minutes	___35-39 ___40-49 X 50-59 ___60-69 ___70+	0 X Calm 1___Gentle (1-3 mph) 3___Light (4-7 mph) 5___Moderate (8-12 mph) 7___Strong (>12 mph)	0 X None 1 __ Mist 3___Snow, Hvy Rain 5___ Fog 7___Light Rain
Official Sunrise: 5 : 10 am				

Polygon ID:	Town:	Start Time:	End Time:
WTBD 6-2	Epping	6:30 am	6:43 am

Point Survey Start Time: N/A End Time: N/A

Species Code	Number Observed	Species Code	Number Observed	Species Code	Number Observed

Broadcast Survey Start Time: 6:30 am End Time: 6:43 am

Species Code	Number Observed	Species Code	Number Observed	Species Code	Number Observed
BCCH	1	TREE S	2		
AMCO	1	YWAR	1		
COYE	3	RWBL	2		
CHSP	1	MALL	1		
BARS	1	VEER	1		

Piscassic & Lamprey River Watershed Wildlife Habitat Model Field Verification Surveys **Wetland Bird Broadcast Counts**	Observers: Laura Deming & Allison Briggaman Phone #:

Date of Survey: 7/29/2003 Month/Day/Year	Sky: 0 X Clear 1 __ ¼ Overcast 3__ ½ Overcast Add 22 minutes 5___ ¾ Overcast 7__ >3/4 Overcast – Add 15 minutes	Temp: ___35-39 ___40-49 ___50-59 ___60-69 X 70+	Wind: 0 X Calm 1 __Gentle (1-3 mph) 3 __ Light (4-7 mph) 5 __ Moderate (8-12 mph) 7 __ Strong (>12 mph)	Precip: 0 X None 1 __ Mist 3___Snow, Hvy Rain 5___ Fog 7___Light Rain
Official Sunset: 8 : 12 pm				

Polygon ID: WTBD 6-2	Town: Epping	Start Time: 8 : 20 pm	End Time: 8:36 pm

Point Survey Start Time: 8:20 pm End Time: 8:23 pm

Species Code	Number Observed	Species Code	Number Observed	Species Code	Number Observed
SWSP	1				
TRES	80-100				
COYE	1				
COGR	LOTS*				
SOSP	1				

Broadcast Survey Start Time: 8:23 pm End Time: 8:36 pm

Species Code	Number Observed	Species Code	Number Observed	Species Code	Number Observed
AMRO	1	COYE	1		
WOTH	1	SOSP	2		
RWBL	1				
SWSP	2				

*CAN HEAR LOTS OF COGR CHATTERING

Piscassic & Lamprey River Watershed Wildlife Habitat Model Field Verification Surveys **Wetland Bird Broadcast Counts**	Observer: Allison Briggaman & Kim Tuttle Phone #:

Date of Survey:	Sky:	Temp:	Wind:	Precip:
7/2/2003 Month/Day/Year	0 X Clear 1 __ ¼ Overcast 3__ ½ Overcast Add 22 minutes 5__ ¾ Overcast 7__ >3/4 Overcast – Add 15 minutes	___35-39 ___40-49 ___50-59 X 60-69 ___70+	0 X Calm 1___Gentle (1-3 mph) 3___Light (4-7 mph) 5___Moderate (8-12 mph) 7___Strong (>12 mph)	0 X None 1 __ Mist 3___Snow, Hvy Rain 5___ Fog 7___Light Rain
Official Sunrise: 5 : 10 am				

Polygon ID:	Town:	Start Time:	End Time:
WTBD 7-1	Epping	5:22 am	5:35 am

Point Survey Start Time: N/A End Time: N/A

Species Code	Number Observed	Species Code	Number Observed	Species Code	Number Observed

Broadcast Survey Start Time: 5:22 am End Time: 5:35 am

Species Code	Number Observed	Species Code	Number Observed	Species Code	Number Observed
BCCH	2	COGR	3		
ETTI	1	RWBL	1		
BLJA	1	SWSP	1		
BTNW	1	BAWW	1		
VEER	1				

Piscassic & Lamprey River Watershed Wildlife Habitat Model Field Verification Surveys **Wetland Bird Broadcast Counts**	Observer: James Oehler & Allison Briggaman Phone #:

Date of Survey:	Sky:	Temp:	Wind:	Precip:
7/1/2003 Month/Day/Year	0 X Clear 1 __ ¼ Overcast 3__ ½ Overcast Add 22 minutes 5__ ¾ Overcast 7__ >3/4 Overcast – Add 15 minutes	___35-39 ___40-49 X 50-59 ___60-69 ___70+	0 X Calm 1___Gentle (1-3 mph) 3___Light (4-7 mph) 5___Moderate (8-12 mph) 7___Strong (>12 mph)	0 X None 1___Mist 3___Snow, Hvy Rain 5___ Fog 7___Light Rain
Official Sunrise: 5 : 10 am				

Polygon ID:	Town:	Start Time:	End Time:
WTBD 7-2	Raymond	7:04 am	7:17 am

Point Survey Start Time: N/A End Time: N/A

Species Code	Number Observed	Species Code	Number Observed	Species Code	Number Observed

Broadcast Survey Start Time: 7:04 am End Time: 7:17 am

Species Code	Number Observed	Species Code	Number Observed	Species Code	Number Observed
RWBL	6	BARS	1		
EAPH	1	COGR	1		
BCCH	1	BLJA	1		
AMGO	1				
TRES	2				

Piscassic & Lamprey River Watershed Wildlife Habitat Model Field Verification Surveys **Wetland Bird Broadcast Counts**	Observers: Laura Deming & Allison Briggaman Phone #:

Date of Survey: 7/29/2003 Month/Day/Year Official Sunset: 8 : 12 pm	Sky: 0 X Clear 1 __ ¼ Overcast 3__ ½ Overcast Add 22 minutes 5___ ¾ Overcast 7__ >3/4 Overcast – Add 15 minutes	Temp: ___35-39 ___40-49 ___50-59 ___60-69 X 70+	Wind: 0 X Calm 1 __Gentle (1-3 mph) 3 __ Light (4-7 mph) 5 __ Moderate (8-12 mph) 7 __ Strong (>12 mph)	Precip: 0 X None 1 __ Mist 3___Snow, Hvy Rain 5___ Fog 7___Light Rain
Polygon ID: WTBD 7-2	Town: Raymond	Start Time: 6 : 16 pm	End Time: 6 : 32 pm	

Point Survey Start Time: 6:16 pm End Time: 6:19 pm

Species Code				Number Observed	Species Code				Number Observed	Species Code				Number Observed
A	M	G	O	3										

Broadcast Survey Start Time: 6:19 pm End Time: 6:32 pm

Species Code				Number Observed	Species Code				Number Observed	Species Code				Number Observed
A	M	G	O	2	I	N	B	U	1					
S	W	S	P	2										
A	M	C	R	1										
B	L	J	A	1										

Piscassic & Lamprey River Watershed Wildlife Habitat Model Field Verification Surveys **Wetland Bird Broadcast Counts**	Observer: James Oehler & Allison Briggaman Phone #:

Date of Survey:	Sky:	Temp:	Wind:	Precip:
7/1/2003 Month/Day/Year	0 X Clear 1 __ ¼ Overcast 3__ ½ Overcast Add 22 minutes 5__ ¾ Overcast 7__ >3/4 Overcast – Add 15 minutes	___35-39 ___40-49 ___50-59 X 60-69 ___70+	0 X Calm 1 __Gentle (1-3 mph) 3 __ Light (4-7 mph) 5 __ Moderate (8-12 mph) 7 __ Strong (>12 mph)	0 X None 1 __ Mist 3___Snow, Hvy Rain 5___ Fog 7___Light Rain
Official Sunrise: 5 : 10 am				

Polygon ID:	Town:	Start Time:	End Time:
WTBD 8-1	Raymond	8:01 am	8:14 am

Point Survey Start Time: N/A End Time: N/A

Species Code	Number Observed	Species Code	Number Observed	Species Code	Number Observed

Broadcast Survey Start Time: 8:01 am End Time: 8:14 am

Species Code	Number Observed	Species Code	Number Observed	Species Code	Number Observed
BCCH	1	SOSP	1		
RWBL	2	COYE	2		
COYE	1	GTBH	1		
BLJA	1				
AMGO	2				

Piscassic & Lamprey River Watershed Wildlife Habitat Model Field Verification Surveys **Wetland Bird Broadcast Counts**	Observers: Laura Deming & Allison Briggaman Phone #:

Date of Survey: 7/28/2003 Month/Day/Year	Sky: 0 X Clear 1 __ ¼ Overcast 3__ ½ Overcast Add 22 minutes 5___ ¾ Overcast 7__ >3/4 Overcast – Add 15 minutes	Temp: ___35-39 ___40-49 ___50-59 ___60-69 X 70+	Wind: 0 X Calm 1 __Gentle (1-3 mph) 3 __ Light (4-7 mph) 5 __ Moderate (8-12 mph) 7 __ Strong (>12 mph)	Precip: 0 X None 1 __ Mist 3___Snow, Hvy Rain 5___ Fog 7___Light Rain
Official Sunrise: 5 : 32 am				

Polygon ID: WTBD 8-1	Town: Raymond	Start Time: 7:41 am	End Time: 7:57 am

Point Survey Start Time: 7:41 am End Time: 7:44 am

Species Code	Number Observed	Species Code	Number Observed	Species Code	Number Observed
BCCH	3				

Broadcast Survey Start Time: 7:44 am End Time: 7:57 am

Species Code	Number Observed	Species Code	Number Observed	Species Code	Number Observed
AMGO	4	WBNU	1	BAWW	1
BTNW	1	ETTI	1		
SOSP	2	COYE	1		
BLJA	5	SWSP	2		

Piscassic & Lamprey River Watershed Wildlife Habitat Model Field Verification Surveys **Wetland Bird Broadcast Counts**	Observer: Allison Briggaman & Kim Tuttle Phone #:

Date of Survey:	Sky:	Temp:	Wind:	Precip:
7/2/2003 Month/Day/Year	0 X Clear 1 __ ¼ Overcast 3__ ½ Overcast Add 22 minutes 5__ ¾ Overcast 7__ >3/4 Overcast – Add 15 minutes	___35-39 ___40-49 ___50-59 X 60-69 ___70+	0 X Calm 1___Gentle (1-3 mph) 3___Light (4-7 mph) 5___Moderate (8-12 mph) 7___Strong (>12 mph)	0 X None 1___Mist 3___Snow, Hvy Rain 5___Fog 7___Light Rain
Official Sunrise: 5 : 10 am				

Polygon ID:	Town:	Start Time:	End Time:
WTBD 8-2	Epping	6:27 am	6:40 am

Point Survey Start Time: N/A End Time: N/A

Species Code	Number Observed	Species Code	Number Observed	Species Code	Number Observed

Broadcast Survey Start Time: 6:27 am End Time: 6:40 am

Species Code	Number Observed	Species Code	Number Observed	Species Code	Number Observed
BCCH	3				
OVEN	1				
BAWW	1				
AMCR	2				
BLJA	2				

Piscassic & Lamprey River Watershed Wildlife Habitat Model Field Verification Surveys **Wetland Bird Broadcast Counts**				Observers: Laura Deming & Allison Briggaman Phone #:
Date of Survey: 7/28/2003 Month/Day/Year	Sky: 0 X Clear 1___¼ Overcast 3___½ Overcast Add 22 minutes 5___¾ Overcast 7___>3/4 Overcast – Add 15 minutes	Temp: ___35-39 ___40-49 ___50-59 ___60-69 X 70+	Wind: 0 __ Calm 1 __Gentle (1-3 mph) 3 X Light (4-7 mph) 5 __ Moderate (8-12 mph) 7 __ Strong (>12 mph)	Precip: 0 X None 1 __ Mist 3___Snow, Hvy Rain 5___ Fog 7___Light Rain
Official Sunrise: 5 : 32 am				
Polygon ID: WTBD 8-2	Town: Raymond	Start Time: 8 : 34 am	End Time: 8 : 51 am	

Point Survey Start Time: 8:34 am End Time: 8:37 am

Species Code	Number Observed	Species Code	Number Observed	Species Code	Number Observed
AMRO	1				
YRWA	1				
REVI	1				
BCCH	4				

Broadcast Survey Start Time: 8:38 am End Time: 8:51 am

Species Code	Number Observed	Species Code	Number Observed	Species Code	Number Observed
SCTA	1				
EAKI	1				
RSHA	1				
BLJA	1				

Piscassic & Lamprey River Watershed Wildlife Habitat Model Field Verification Surveys **Wetland Bird Broadcast Counts**			Observer: Allison Briggaman & Kim Tuttle Phone #:		
Date of Survey: 7/2/2003 Month/Day/Year	Sky: 0 X Clear 1___¼ Overcast 3___½ Overcast Add 22 minutes 5___¾ Overcast 7___>3/4 Overcast – Add 15 minutes	Temp: ___35-39 ___40-49 ___50-59 X 60-69 ___70+	Wind: 0 X Calm 1 __Gentle (1-3 mph) 3 __ Light (4-7 mph) 5 __ Moderate (8-12 mph) 7 __ Strong (>12 mph)	Precip: 0 X None 1 __ Mist 3___Snow, Hvy Rain 5___ Fog 7___Light Rain	
Official Sunrise: 5 : 10 am					
Polygon ID: WTBD 10-1	Town: Epping	Start Time: 7:35 am	End Time: 7:48 am		

Point Survey Start Time: N/A End Time: N/A

Species Code	Number Observed	Species Code	Number Observed	Species Code	Number Observed

Broadcast Survey Start Time: 7:35 am End Time: 7:48 am

Species Code	Number Observed	Species Code	Number Observed	Species Code	Number Observed
COYE	2				
RWBL	1				
AMRO	1				
CHSP	2				
AMCR	1				

Piscassic & Lamprey River Watershed Wildlife Habitat Model Field Verification Surveys **Wetland Bird Broadcast Counts**	Observers: Laura Deming and Kim Tuttle Phone #:

Date of Survey:	Sky:	Temp:	Wind:	Precip:
7/31/ 2003 Month/Day/Year	0 X Clear 1___¼ Overcast 3___½ Overcast Add 22 minutes 5___¾ Overcast 7___>3/4 Overcast – Add 15 minutes	___35-39 ___40-49 ___50-59 ___60-69 X 70+	0 X Calm 1 __Gentle (1-3 mph) 3 __ Light (4-7 mph) 5 __ Moderate (8-12 mph) 7 __ Strong (>12 mph)	0 X None 1 __ Mist 3___Snow, Hvy Rain 5___ Fog 7___Light Rain
Official Sunrise: 5:35 am				

Polygon ID:	Town:	Start Time:	End Time:
WTBD 11-1	Epping	7 : 44 am	8 : 01 am

Point Survey Start Time: 7:44 am End Time: 7:47 am

Species Code	Number Observed	Species Code	Number Observed	Species Code	Number Observed
SWSP	3				
ETTI	1				
COYE	1				
AMRO	1				
BCCH	1				
BWHA	1				
RWBL	1				
AMGO	1				
RTHA	1				

Broadcast Survey Start Time: 7:48 am End Time: 8:01 am

Species Code	Number Observed	Species Code	Number Observed	Species Code	Number Observed
EAKI	2	SPSA	1		
GRCA	1	ETTI	1		
SOSP	2				
NOCA	1				
NOFL	1				

Piscassic & Lamprey River Watershed Wildlife Habitat Model Field Verification Surveys **Wetland Bird Broadcast Counts**	Observer: James Oehler & Kim Tuttle Phone #:

Date of Survey:	Sky:	Temp:	Wind:	Precip:
7/7/2003 Month/Day/Year	0 X Clear 1 __ ¼ Overcast 3__ ½ Overcast Add 22 minutes 5__ ¾ Overcast 7__ >3/4 Overcast – Add 15 minutes	___35-39 ___40-49 ___50-59 X 60-69 ___70+	0 X Calm 1 __Gentle (1-3 mph) 3 __ Light (4-7 mph) 5 __ Moderate (8-12 mph) 7 __ Strong (>12 mph)	0 X None 1 __ Mist 3___Snow, Hvy Rain 5___ Fog 7___Light Rain
Official Sunrise: 5:13 am				

Polygon ID:	Town:	Start Time:	End Time:
WTBD 11-2	Epping	6:48 am	7:01 am

Point Survey Start Time: N/A End Time: N/A

Species Code	Number Observed	Species Code	Number Observed	Species Code	Number Observed

Broadcast Survey Start Time: 6:48 am End Time: 7:01 am

Species Code	Number Observed	Species Code	Number Observed	Species Code	Number Observed
SOSP	3	COGR	1		
COYE	3	SWSP	1		
BLJA	2				
RWBL	5				
DOWO	1				

Piscassic & Lamprey River Watershed Wildlife Habitat Model Field Verification Surveys **Wetland Bird Broadcast Counts**				Observers: Laura Deming and Kim Tuttle Phone #:	
Date of Survey: 7/31/2003 Month/Day/Year	Sky: 0 X Clear 1 __ ¼ Overcast 3__ ½ Overcast Add 22 minutes 5 __ ¾ Overcast 7__ >3/4 Overcast – Add 15 minutes	Temp: ___35-39 ___40-49 ___50-59 ___60-69 X 70+	Wind: 0 X Calm 1 __Gentle (1-3 mph) 3 __ Light (4-7 mph) 5 __ Moderate (8-12 mph) 7 __ Strong (>12 mph)	Precip: 0 X None 1 __ Mist 3___Snow, Hvy Rain 5___ Fog 7___Light Rain	
Official Sunrise: 5:35 am					
Polygon ID: WTBD 11-2	Town: Epping	Start Time: 8 : 21 am	End Time: 8 : 38 am		

Point Survey Start Time: 8:21 am End Time: 8:24 am

Species Code	Number Observed	Species Code	Number Observed	Species Code	Number Observed
SWSP	4				
COYE	2				
SOSP	1				
AMCR	1				
BLJA	2				
BCCH	1				
AMGO	2				
ETTI	1				
EAWP	1				
DOWO	1				
AMRO	1				
PIWO	1				

Broadcast Survey Start Time: 8:25 am End Time: 8:38 am

amSpecies Code	Number Observed	Species Code	Number Observed	Species Code	Number Observed
EAKI	1	SOSP	1		
TRES	1	AMGO	2		
RWBL	1	COYE	1		
HAWO	1				

Piscassic & Lamprey River Watershed Wildlife Habitat Model Field Verification Surveys **Wetland Bird Broadcast Counts**				Observer: James Oehler & Kim Tuttle Phone #:
Date of Survey: 7/7/2003 Month/Day/Year Official Sunrise: 5:13 am	Sky: 0 X Clear 1 __ ¼ Overcast 3__ ½ Overcast Add 22 minutes 5__ ¾ Overcast 7__ >3/4 Overcast – Add 15 minutes	Temp: ___35-39 ___40-49 ___50-59 X 60-69 ___70+	Wind: 0 X Calm 1 __Gentle (1-3 mph) 3 __ Light (4-7 mph) 5 __ Moderate (8-12 mph) 7 __ Strong (>12 mph)	Precip: 0 X None 1 __ Mist 3___Snow, Hvy Rain 5___ Fog 7___Light Rain
Polygon ID: WTBD 11-4	Town: Epping	Start Time: 5:52 am	End Time: 6:05 am	

Point Survey Start Time: N/A End Time: N/A

Species Code	Number Observed	Species Code	Number Observed	Species Code	Number Observed

Broadcast Survey Start Time: 5:52 am End Time: 6:05 am

Species Code	Number Observed	Species Code	Number Observed	Species Code	Number Observed
SOSP	2	AMBL	1		
COYE	1				
EAWP	1				
RWBL	1				
NOFL	1				

Piscassic & Lamprey River Watershed Wildlife Habitat Model Field Verification Surveys **Wetland Bird Broadcast Counts**	Observer: Laura Deming Phone #:

Date of Survey: 6/23/2003 Month/Day/Year	Sky: 0 __ Clear 1 __ ¼ Overcast 3__ ½ Overcast Add 22 minutes 5__ ¾ Overcast 7 X >3/4 Overcast – Add 15 minutes	Temp: ___35-39 ___40-49 ___50-59 X 60-69 ___70+	Wind: 0 X Calm 1 __Gentle (1-3 mph) 3 __ Light (4-7 mph) 5 __ Moderate (8-12 mph) 7 __ Strong (>12 mph)	Precip: 0___None 1___Mist 3___Snow, Hvy Rain 5___Fog 7 X Light Rain
Official Sunrise: 5:07 am				

Polygon ID: WTBD 12-1	Town: Epping/Brentwood	Start Time: 6:59 am	End Time: 7:15 am

Point Survey Start Time: 6:59 am End Time: 7:02 am

Species Code	Number Observed	Species Code	Number Observed	Species Code	Number Observed
BCCH	1				
BLJA	1				
EAWP	1				
RWBL	1				
BAOR	1				
AMGO	1				
VEER	1				
OVEN	1				

Broadcast Survey Start Time: 7:02 am End Time: 7:15 am

Species Code	Number Observed	Species Code	Number Observed	Species Code	Number Observed
SWSP	1	RBGR	1*		
COYE	1				
COGR	1				
HETH	1				
EAKI	1				

Piscassic & Lamprey River Watershed Wildlife Habitat Model Field Verification Surveys **Wetland Bird Broadcast Counts**	Observers: Laura Deming Phone #:

Date of Survey: 7/30/2003 Month/Day/Year	Sky: 0 X Clear 1___¼ Overcast 3___½ Overcast Add 22 minutes 5___¾ Overcast 7___>3/4 Overcast – Add 15 minutes	Temp: ___35-39 ___40-49 ___50-59 ___60-69 X 70+	Wind: 0 X Calm 1 __Gentle (1-3 mph) 3 __ Light (4-7 mph) 5 __ Moderate (8-12 mph) 7 __ Strong (>12 mph)	Precip: 0 X None 1 __ Mist 3___Snow, Hvy Rain 5___ Fog 7___Light Rain
Official Sunrise: 5:33 am				

Polygon ID: WTBD 12-1	Town: Epping/Brentwood	Start Time: 8:10 am	End Time: 8:40 am

Point Survey Start Time: 8:10 am End Time: 8:13 am

Species Code	Number Observed	Species Code	Number Observed	Species Code	Number Observed
BLJA	1				
SOSP	1				
AMGO	1				
SCTA	1				
WBNU	1				
DOWO	1				
EAKI	1				
RWBL	4				
BCCH	1				

Broadcast Survey Start Time: 8:27 am End Time: 8:40 am

Species Code	Number Observed	Species Code	Number Observed	Species Code	Number Observed
COYE	2	SOSP	1		
HAWO	1	AMGO	2		
MODO	1	BCCH	1		
ETTI	1				
CEDW	1				

Piscassic & Lamprey River Watershed Wildlife Habitat Model Field Verification Surveys **Wetland Bird Broadcast Counts**	Observer: Laura Deming Phone #:

Date of Survey:	Sky:	Temp:	Wind:	Precip:
6/23/2003 Month/Day/Year	0 __ Clear 1 __ ¼ Overcast 3__ ½ Overcast Add 22 minutes 5__ ¾ Overcast 7 X >3/4 Overcast – Add 15 minutes	___35-39 ___40-49 ___50-59 X 60-69 ___70+	0 X Calm 1 __Gentle (1-3 mph) 3 __ Light (4-7 mph) 5 __ Moderate (8-12 mph) 7 __ Strong (>12 mph)	0___None 1___Mist 3___Snow, Hvy Rain 5___Fog 7 X Light Rain
Official Sunrise: 5:07 am				

Polygon ID:	Town:	Start Time:	End Time:
WTBD 12-2	Epping/Brentwood	7:35 am	7:51 am

Point Survey Start Time: 7:35 am End Time: 7:38 am

Species Code	Number Observed	Species Code	Number Observed	Species Code	Number Observed
SWSP	1	AMRO	1		
RWBL	1				
SCTA	1				
YWAR	1				
HETH	1				
AMGO	1				
EAKI	1				
BLJA	1				
EWPE	1				
BAOR	1				
WBNU	1				
HAWO	1				

Broadcast Survey Start Time: 7:38 am End Time: 7:51 am

Species Code	Number Observed	Species Code	Number Observed	Species Code	Number Observed
OVEN	1				
CAGO	2*				

*Pair before point

Piscassic & Lamprey River Watershed Wildlife Habitat Model Field Verification Surveys **Wetland Bird Broadcast Counts**	Observer: Laura Deming Phone #:

Date of Survey:	Sky:	Temp:	Wind:	Precip:
6/23/2003 Month/Day/Year	0 __ Clear 1 __ ¼ Overcast 3__ ½ Overcast Add 22 minutes 5__ ¾ Overcast 7 X >3/4 Overcast – Add 15 minutes	___35-39 ___40-49 ___50-59 X 60-69 ___70+	0 X Calm 1 __Gentle (1-3 mph) 3 __ Light (4-7 mph) 5 __ Moderate (8-12 mph) 7 __ Strong (>12 mph)	0 __ None 1 __ Mist 3___Snow, Hvy Rain 5___Fog 7 X Light Rain
Official Sunrise: 5:07 am				

Polygon ID:	Town:	Start Time:	End Time:
WTBD 12-3	Epping/Brentwood	8:06 am	8:23 am

Point Survey Start Time: 8:06 am End Time: 8:09 am

Species Code	Number Observed	Species Code	Number Observed	Species Code	Number Observed
COYE	1				
RWBL	1				
YWAR	1				
COGR	1				
MODO	1				
RBGR	1				
SCTA	1				
MALL	3				

Broadcast Survey Start Time: 8:10 am End Time: 8:23 am

Species Code	Number Observed	Species Code	Number Observed	Species Code	Number Observed
VEER	1				
SWSP	1				

Piscassic & Lamprey River Watershed Wildlife Habitat Model Field Verification Surveys **Wetland Bird Broadcast Counts**	Observer: Laura Deming Phone #:

Date of Survey:	Sky:	Temp:	Wind:	Precip:
7/30/2003 Month/Day/Year	0 X Clear 1 __ ¼ Overcast 3___½ Overcast Add 22 minutes 5___¾ Overcast 7___>3/4 Overcast – Add 15 minutes	___35-39 ___40-49 ___50-59 ___60-69 X 70+	0 X Calm 1 __Gentle (1-3 mph) 3 __ Light (4-7 mph) 5 __ Moderate (8-12 mph) 7 __ Strong (>12 mph)	0 X None 1 __ Mist 3___Snow, Hvy Rain 5___ Fog 7___Light Rain
Official Sunrise: 5:34 am				

Polygon ID:	Town:	Start Time:	End Time:
WTBD 12-3	Epping/Brentwood	8:54 am	9:10 am

Point Survey Start Time: 8:54 am End Time: 8:57 am

Species Code	Number Observed	Species Code	Number Observed	Species Code	Number Observed
BLJA	2				
SWSP	2				
TRES	1				
AMRO	1				
AMGO	1				

Broadcast Survey Start Time: 8:57 am End Time: 9:10 am

Species Code	Number Observed	Species Code	Number Observed	Species Code	Number Observed
CEDW	1	AMGO	2		
COYE	1				
MODO	2				
NOFL	1				
SWSP	4				

Piscassic & Lamprey River Watershed Wildlife Habitat Model Field Verification Surveys **Wetland Bird Broadcast Counts**				Observer: Laura Deming Phone #:	
Date of Survey: 6/16/2003 Month/Day/Year	Sky: 0___Clear 1___¼ Overcast 3___½ Overcast Add 22 minutes 5 X ¾ Overcast 7___>3/4 Overcast – Add 15 minutes	Temp: ___35-39 ___40-49 ___50-59 X 60-69 ___70+	Wind: 0 X Calm 1 __Gentle (1-3 mph) 3 __ Light (4-7 mph) 5 __ Moderate (8-12 mph) 7 __ Strong (>12 mph)	Precip: 0 X None 1___Mist 3___Snow, Hvy Rain 5___Fog 7___Light Rain	
Official Sunrise: 5:06 am					
Polygon ID: WTBD 13-1	Town: Exeter	Start Time: 8:49 am	End Time: 9:07 am		

Point Survey Start Time: 8:49 am End Time: 8:52 am

Species Code	Number Observed	Species Code	Number Observed	Species Code	Number Observed
SWSP	1				
COYE	1				
HETH	1				
AMCR	1				
VEER	1				
SCTA	1				
DOWO	1				
TUVU	1				
OVEN	1				

Broadcast Survey Start Time: 8:54 am End Time: 9:07 am

Species Code	Number Observed	Species Code	Number Observed	Species Code	Number Observed
BCCH	1				
AMGO	1				
RTHA	1				
WOTH	1				

Piscassic & Lamprey River Watershed Wildlife Habitat Model Field Verification Surveys **Wetland Bird Broadcast Counts**	Observer: Laura Deming Phone #:

Date of Survey:	Sky:	Temp:	Wind:	Precip:
6/23/2003 Month/Day/Year	0 __ Clear 1 __ ¼ Overcast 3__ ½ Overcast Add 22 minutes 5__ ¾ Overcast 7 X >3/4 Overcast – Add 15 minutes	___35-39 ___40-49 ___50-59 X 60-69 ___70+	0 X Calm 1 __Gentle (1-3 mph) 3 __ Light (4-7 mph) 5 __ Moderate (8-12 mph) 7 __ Strong (>12 mph)	0 X None 1 __ Mist 3___Snow, Hvy Rain 5___ Fog 7___Light Rain
Official Sunrise: 5:07 am				

Polygon ID:	Town:	Start Time:	End Time:
WTBD 13-2	Exeter	8:47 am	9:04 am

Point Survey Start Time: 8:47 am End Time: 8:50 am

Species Code	Number Observed	Species Code	Number Observed	Species Code	Number Observed
GRCA	1				
RWBL	1				
COYE	1				
YWAR	1				
BCCH	1				
DOWO	1				
VEER	1				
SCTA	1				
BTNW	1				
SWSP	1				

Broadcast Survey Start Time: 8:51 am End Time: 9:04 am

Species Code	Number Observed	Species Code	Number Observed	Species Code	Number Observed
COGR	1				
NOCA	1				
OVEN	1				

Piscassic & Lamprey River Watershed Wildlife Habitat Model Field Verification Surveys **Wetland Bird Broadcast Counts**	Observer: Laura Deming Phone #:

Date of Survey:	Sky:	Temp:	Wind:	Precip:
7/30/2003 Month/Day/Year	0 X Clear 1 __ ¼ Overcast 3__ ½ Overcast Add 22 minutes 5 __ ¾ Overcast 7__ >3/4 Overcast – Add 15 minutes	___35-39 ___40-49 ___50-59 ___60-69 X 70+	0 X Calm 1 __Gentle (1-3 mph) 3 __ Light (4-7 mph) 5 __ Moderate (8-12 mph) 7 __ Strong (>12 mph)	0 X None 1 __ Mist 3___Snow, Hvy Rain 5___ Fog 7___Light Rain
Official Sunrise: 5:34 am				

Polygon ID:	Town:	Start Time:	End Time:
WTBD 13-2	Exeter	9 : 34 am	9 : 55 am

Point Survey Start Time: 9:34 am End Time: 9:37 am

Species Code	Number Observed	Species Code	Number Observed	Species Code	Number Observed
SWSP	2				
BCCH	1				
AMRO	1				
GRCA	1				
SOSP	2				
NOCA	1				

Broadcast Survey Start Time: 9:42 am End Time: 9:55 am

Species Code	Number Observed	Species Code	Number Observed	Species Code	Number Observed
AMGO	1				
RWBL	1				
INBU	1				
SWSP	3				

Piscassic & Lamprey River Watershed Wildlife Habitat Model Field Verification Surveys **Wetland Bird Broadcast Counts**	Observer: Laura Deming Phone #:

Date of Survey:	Sky:	Temp:	Wind:	Precip:
6/11/2003 Month/Day/Year	0___Clear 1___¼ Overcast 3___½ Overcast Add 22 minutes 5___¾ Overcast 7 X >3/4 Overcast – Add 15 minutes	___35-39 ___40-49 ___50-59 X 60-69 ___70+	0 X Calm 1___Gentle (1-3 mph) 3___Light (4-7 mph) 5___Moderate (8-12 mph) 7___Strong (>12 mph)	0 X None 1___Mist 3___Snow, Hvy Rain 5___ Fog 7___Light Rain
Official Sunrise: 5:06 am				

Polygon ID:	Town:	Start Time:	End Time:
WTBD 14-1	Newfields	8:23 am	8:40 am

Point Survey Start Time: 8:23 am End Time: 8:26 am

Species Code	Number Observed	Species Code	Number Observed	Species Code	Number Observed
ALFL	1				
SOSP	1				
AMCR	1				
EAWP	1				
BLJA	1				
SCTA	1				
ETTI	1				
VEER	1				
INBU	1				
AMGO	1				
YWAR	1				
RBGR	1				

Broadcast Survey Start Time: 8:27 am End Time: 8:40 am

Species Code	Number Observed	Species Code	Number Observed	Species Code	Number Observed
BAWW	1	GRCA	1		
BCCH	1	OVEN	1		
SWSP	1				
COYE	1				
GCFL	1				

*Before point count heard a blue-winged warbler (or hybrid) singing and saw a wren (probably either SEWN or MAWN) near culvert.

Piscassic & Lamprey River Watershed Wildlife Habitat Model Field Verification Surveys **Wetland Bird Broadcast Counts**	Observers: Laura Deming & Kim Tuttle Phone #:

Date of Survey: 7/25/2003 Month/Day/Year	Sky: 0 X Clear 1___¼ Overcast 3___½ Overcast Add 22 minutes 5___¾ Overcast 7__ >3/4 Overcast – Add 15 minutes	Temp: ___35-39 ___40-49 ___50-59 ___60-69 X 70+	Wind: 0 X Calm 1 __Gentle (1-3 mph) 3 __ Light (4-7 mph) 5 __ Moderate (8-12 mph) 7 __ Strong (>12 mph)	Precip: 0 X None 1 __ Mist 3___Snow, Hvy Rain 5___ Fog 7___Light Rain
Official Sunrise: 5:29 am				

Polygon ID: WTBD 14-1	Town: Newfields	Start Time: 8:19 am	End Time: 8:36 am

Point Survey Start Time: 8:19 am End Time: 8:22 am

Species Code	Number Observed	Species Code	Number Observed	Species Code	Number Observed
SWSP	1	RTHU	1		
COYE	1				
REVI	1				
AMGO	2				
BCCH	2				
SOSP	1				
MODO	1				
BLJA	1				
ETTI	1				
ALFL	1				
WBNU	1				
GRCA	1				

Broadcast Survey Start Time: 8:23 am End Time: 8:36 am

Species Code	Number Observed	Species Code	Number Observed	Species Code	Number Observed
SWSP	1				
SOSP	1				

Piscassic & Lamprey River Watershed Wildlife Habitat Model Field Verification Surveys **Wetland Bird Broadcast Counts**	Observer: Laura Deming Phone #:

Date of Survey: 6/6/2003 Month/Day/Year	Sky: 0 X Clear 1 __ ¼ Overcast 3__ ½ Overcast Add 22 minutes 5___ ¾ Overcast 7 __>3/4 Overcast – Add 15 minutes	Temp: ___35-39 ___40-49 ___50-59 ___60-69 X 70+	Wind: 0 X Calm 1 __Gentle (1-3 mph) 3 __ Light (4-7 mph) 5 __ Moderate (8-12 mph) 7 __ Strong (>12 mph)	Precip: 0 X None 1___Mist 3___Snow, Hvy Rain 5___Fog 7___Light Rain
Official Sunrise: 5:07 am				

Polygon ID: WTBD 15-1	Town: Lee	Start Time: 7:09 am	End Time: 7:28 am

Point Survey Start Time: 7:09 am End Time: 7:12 am

Species Code	Number Observed	Species Code	Number Observed	Species Code	Number Observed
RBGR	1	REVI	1		
YTVI	1				
RWBL	1				
ALFL	1				
CAGO	2				
COYE	1				
SOSP	1				
MODO	1				
BLJA	1				
EAWP	1				
EAKI	1				
BAOR	1				

Broadcast Survey Start Time: 7:15 am End Time: 7:28 am

Species Code	Number Observed	Species Code	Number Observed	Species Code	Number Observed
WAVI	1				
GCFL	1				

Piscassic & Lamprey River Watershed Wildlife Habitat Model Field Verification Surveys **Wetland Bird Broadcast Counts**	Observers: Laura Deming & Kim Tuttle Phone #:

Date of Survey: 7/25/2003 Month/Day/Year	Sky: 0 X Clear 1 __ ¼ Overcast 3__ ½ Overcast Add 22 minutes 5__ ¾ Overcast 7__ >3/4 Overcast – Add 15 minutes	Temp: ___35-39 ___40-49 ___50-59 ___60-69 X 70+	Wind: 0 X Calm 1 __Gentle (1-3 mph) 3 __ Light (4-7 mph) 5 __ Moderate (8-12 mph) 7 __ Strong (>12 mph)	Precip: 0 X None 1 __ Mist 3___Snow, Hvy Rain 5___ Fog 7___Light Rain
Official Sunrise: 5:29 am				

Polygon ID: WTBD 15-1	Town: Lee	Start Time: 7:17 am	End Time: 7:37 am

Point Survey Start Time: 7:17 am End Time: 7:20 am

Species Code	Number Observed	Species Code	Number Observed	Species Code	Number Observed
BEKI	2	GTBH	2		
MODO	3	NOCA	1		
EAWP	1	ALFL	1		
AMRO	1	NOFL	1		
CSWA	1				
ETTI	2				
BLJA	2				
BCCH	3				
RWBL	1				
COYE	1				
GNBH	4*				
WOTH	1				

Broadcast Survey Start Time: 7:25 am End Time: 7:37 am

Species Code	Number Observed	Species Code	Number Observed	Species Code	Number Observed
RBWO	1	COGR	1		
GRCA	1	YTVI	1		
GCFL	1	RBGR	1		
AMGO	2	EAKI	2		
SOSP	1				

*Family group – pair with two young

Piscassic & Lamprey River Watershed Wildlife Habitat Model Field Verification Surveys **Wetland Bird Broadcast Counts**	Observer: Laura Deming and Kim Tuttle Phone #:

Date of Survey:	Sky:	Temp:	Wind:	Precip:
6/2/2003 Month/Day/Year	0 X Clear 1___¼ Overcast 3___½ Overcast Add 22 minutes 5___¾ Overcast 7___>3/4 Overcast – Add 15 minutes	___35-39 ___40-49 X 50-59 ___60-69 ___70+	0 __ Calm 1 __Gentle (1-3 mph) 3 __ Light (4-7 mph) 5 X Moderate (8-12 mph) 7 __ Strong (>12 mph)	0 X None 1 __ Mist 3___Snow, Hvy Rain 5___ Fog 7___Light Rain
Official Sunrise: 5:09 am				

Polygon ID:	Town:	Start Time:	End Time:
WTBD 16-1	Durham	7:41 am	7:58 am

Point Survey Start Time: 7:41 am End Time: 7:44 am

Species Code	Number Observed	Species Code	Number Observed	Species Code	Number Observed
GCFL	1				
BBCU	1				
RWBL	1				
AMCR	1				
BAOR	1				
SCTA	1				
EAWP	1				

Broadcast Survey Start Time: 7:45 am End Time: 7:58 am

Species Code	Number Observed	Species Code	Number Observed	Species Code	Number Observed
AMGO	1				
TRES	1				
COYE	1				

Piscassic & Lamprey River Watershed Wildlife Habitat Model Field Verification Surveys **Wetland Bird Broadcast Counts**	Observers: Laura Deming & Kim Tuttle Phone #:

Date of Survey: 7/22/2003 Month/Day/Year	Sky: 0 __ Clear 1 __ ¼ Overcast 3__ ½ Overcast Add 22 minutes 5__ ¾ Overcast 7 X >3/4 Overcast – Add 15 minutes	Temp: ___35-39 ___40-49 ___50-59 ___60-69 X 70+	Wind: 0 X Calm 1 __Gentle (1-3 mph) 3 __ Light (4-7 mph) 5 __ Moderate (8-12 mph) 7 __ Strong (>12 mph)	Precip: 0 X None 1 __ Mist 3___Snow, Hvy Rain 5___ Fog 7___Light Rain
Official Sunrise: 5:26 am				

Polygon ID: WTBD 16-1	Town: Durham	Start Time: 7:36 am	End Time: 7:57 am

Point Survey Start Time: 7:36 am End Time: 7:39 am

Species Code	Number Observed	Species Code	Number Observed	Species Code	Number Observed
YTVI	1				
REVI	1				
RWBL	1				
EAWP	1				
SWSP	1				
BCCH	1				
NOFL	1				
WBNU	1				

Broadcast Survey Start Time: 7:44 am End Time: 7:57 am

Species Code	Number Observed	Species Code	Number Observed	Species Code	Number Observed
STAA	1	COYE	1		
SOSP	1				
SWSP	1				
ETTI	1				
AMGO	1				

Piscassic & Lamprey River Watershed Wildlife Habitat Model Field Verification Surveys **Wetland Bird Broadcast Counts**	Observer: Laura Deming Phone #:

Date of Survey: 6/2/2003 Month/Day/Year	Sky: 0 X Clear 1___¼ Overcast 3___½ Overcast Add 22 minutes 5___¾ Overcast 7___>3/4 Overcast – Add 15 minutes	Temp: ___35-39 ___40-49 ___50-59 X 60-69 ___70+	Wind: 0 __ Calm 1 __Gentle (1-3 mph) 3 __ Light (4-7 mph) 5 X Moderate (8-12 mph) 7 __ Strong (>12 mph)	Precip: 0 X None 1 __ Mist 3___Snow, Hvy Rain 5___ Fog 7___Light Rain
Official Sunrise: 5:09 am				

Polygon ID: WTBD 16-2	Town: Durham	Start Time: 8:05 am	End Time: 8:08 am

Point Survey Start Time: 8:05 am End Time: 8:08 am

Species Code	Number Observed	Species Code	Number Observed	Species Code	Number Observed
CAGO	2				
COYE	1				
RWBL	1				
SWSP	1				
BLJA	1				
MODO	1				
GCFL	1				
REVI	1				

Broadcast Survey Start Time: N/A End Time: N/A

Species Code	Number Observed	Species Code	Number Observed	Species Code	Number Observed

Piscassic & Lamprey River Watershed Wildlife Habitat Model Field Verification Surveys **Wetland Bird Broadcast Counts**	Observer: Laura Deming Phone #:

Date of Survey:	Sky:	Temp:	Wind:	Precip:
6/2/2003 Month/Day/Year	0 X Clear 1___¼ Overcast 3___½ Overcast Add 22 minutes 5___¾ Overcast 7___>3/4 Overcast – Add 15 minutes	___35-39 ___40-49 ___50-59 X 60-69 ___70+	0 __ Calm 1 __Gentle (1-3 mph) 3 __ Light (4-7 mph) 5 X Moderate (8-12 mph) 7 __ Strong (>12 mph)	0 X None 1 __ Mist 3___Snow, Hvy Rain 5___ Fog 7___Light Rain
Official Sunrise: 5:09 am				

Polygon ID:	Town:	Start Time:	End Time:
WTBD 16-2	Durham	8:05 am	8:08 am

Point Survey Start Time: 8:05 am End Time: 8:08 am

Species Code	Number Observed	Species Code	Number Observed	Species Code	Number Observed
CAGO	2				
COYE	1				
RWBL	1				
SWSP	1				
BLJA	1				
MODO	1				
GCFL	1				
REVI	1				

Broadcast Survey Start Time: N/A End Time: N/A

Species Code	Number Observed	Species Code	Number Observed	Species Code	Number Observed

Piscassic & Lamprey River Watershed Wildlife Habitat Model Field Verification Surveys **Wetland Bird Broadcast Counts**	Observers: Laura Deming & Kim Tuttle Phone #:

Date of Survey: 7/22/2003 Month/Day/Year	Sky: 0___Clear 1___¼ Overcast 3___½ Overcast Add 22 minutes 5___¾ Overcast 7 X >3/4 Overcast – Add 15 minutes	Temp: ___35-39 ___40-49 ___50-59 ___60-69 X 70+	Wind: 0 X Calm 1 __Gentle (1-3 mph) 3 __ Light (4-7 mph) 5 __ Moderate (8-12 mph) 7 __ Strong (>12 mph)	Precip: 0 X None 1 __ Mist 3___Snow, Hvy Rain 5___Fog 7___Light Rain
Official Sunrise: 5:26 am				

Polygon ID: WTBD 16-2	Town: Durham	Start Time: 8:11 am	End Time: 8:28 am

Point Survey Start Time: 8:11 am End Time: 8:14 am

Species Code	Number Observed	Species Code	Number Observed	Species Code	Number Observed
REVI	1				
RWBL	1				
COYE	1				
YTVI	1				
SCTA	1				
SWSP	1				
SOSP	1				

Broadcast Survey Start Time: 8:15 am End Time: 8:28 am

Species Code	Number Observed	Species Code	Number Observed	Species Code	Number Observed
VIRA	**1***				
MODO	1				

*Responded to sora on tape

Piscassic & Lamprey River Watershed Wildlife Habitat Model Field Verification Surveys **Wetland Bird Broadcast Counts**	Observers: Laura Deming & Kim Tuttle Phone #:

Date of Survey: 7/25/2003 Month/Day/Year	Sky: 0 X Clear 1 __ ¼ Overcast 3__ ½ Overcast Add 22 minutes 5__ ¾ Overcast 7__ >3/4 Overcast – Add 15 minutes	Temp: ___35-39 ___40-49 ___50-59 ___60-69 X 70+	Wind: 0 X Calm 1 __Gentle (1-3 mph) 3 __ Light (4-7 mph) 5 __ Moderate (8-12 mph) 7 __ Strong (>12 mph)	Precip: 0 X None 1 __ Mist 3___Snow, Hvy Rain 5___ Fog 7___Light Rain
Official Sunrise: 5:29 am				

Polygon ID: WTBD 17-1	Town: Newfields	Start Time: 9:17 am	End Time: 9:34 am

Point Survey Start Time: 9:17 am End Time: 9:20 am

Species Code	Number Observed	Species Code	Number Observed	Species Code	Number Observed
SCTA	1				
SWSP	2				
SOSP	1				
TRES	1				
AMGO	2				
WOTH	1				

Broadcast Survey Start Time: 9:21 am End Time: 9:34 am

Species Code	Number Observed	Species Code	Number Observed	Species Code	Number Observed
GCFL	1				
DOWO	1				
COYE	1				
SWSP	1				

Appendix D:

Completed Vegetation Survey Data Sheets
(presented in the following order):

American woodcock
Whip-poor-will
Blue-winged & Golden-winged warblers

Observers: James Oehler and Allison Briggaman **Phone:** (603) 271-2461 **Date:** 7/9/2003

Point ID: AMWO 1-1 **Town:** Durham

Canopy Layer > 6 m in height

Avg Can Ht (m)	Canopy Cover	Dom Spp	% dom	Co-Dom Spp	% dom
12	6	ACRUBR	25-50		

DBH (cm) & Basal Area (sq. cm) of Trees > 10 cm DBH

Species	Species	Species	Species	Species	Species	Species
ACRUBR	PISTRO	TSCANA	ULAMER			
DBH / BA	**DBH / BA**	**DBH / BA**	**DBH / BA**	**DBH / BA**	**DBH / BA**	**DBH / BA**
16.0/201.09	13.5/143.16	33.0/855.41	28.0/615.83			
26.0/531.00	20.5/330.11	23.5/433.79				
23.5/433.79		17.0/227.01				
22.5/397.66						
17.5/240.56						
14.5/165.15						
20.5/330.11						
25.5/510.77						

BA Sum: 2810.13 **BA Sum: 473.27** **BA Sum: 1516.21** **BA Sum:615.83** **BA Sum:_____** **BA Sum:_____** **BA Sum:_____**

BA of Plot (sum of all spp./10,000 = 0.54 sq. m/plot)

BA per Ha (BA of plot x 25 = 13.54 sq. m/ha)

Shrub Layer 1-6 m in height

Avg Shrub Ht (m)	Shrub Layer Cover
4	6

Dom. Shrub Spp.	% cover
LONICE	3
COSTOL	3
VIRECO	3
RHFRAN	3

Ground Layer < 1 m in height

Herb Layer	Herb Layer Cover
Grass	3
Sedge/Rush	4
Fern	3
Forb	5
Shrub	4
Brush	3
Moss	1
Leaf	4
Bare	3
Rock	0

Dom. Ground Spp.	% cover
IMCOMP	4
Carex	4
Onsens	3

Grass-dominated Areas Only

Avg. Robel Pole:		cm
	N	
	S	
	E	
	W	

Cover Classes
1
0-2%
2
>2-5%
3
>5-12%
4
>12-25%
5
>25-50%
6
>50-75%
7
>75-100%

Observers: James Oehler and Allison Briggaman **Phone:** (603) 271-2461 **Date:** 7/9/2003

Point ID: AMWO 2-1 **Town:** Durham

Canopy Layer > 6 m in height

Avg Can Ht (m)	Canopy Cover	Dom Spp	% dom	Co-Dom Spp	% dom
23	7	QURUBR	75-100		

DBH (cm) & Basal Area (sq. cm) of Trees > 10 cm DBH

Species	Species	Species	Species	Species	Species	Species
CAOVAT	PISTRO	QURUBR	QURUBR	FRNIGR	QUALBA	
DBH / BA	**DBH / BA**	**DBH / BA**	**DBH / BA**	**DBH / BA**	**DBH / BA**	**DBH / BA**
10.0/78.55	50.0/1963.75	29.5/683.58	21.5/363.10	16.5/213.85	13.0/132.75	
		40.5/1288.42	25.5/510.77	21.0/346.41		
		39.5/1225.58	28.5/638.02			
		18.5/268.84	20.0/314.20			
		39.5/1225.58	30.0/706.95			
		19.0/283.57				
		16.5/213.85				
		26.0/531.00				

BA Sum: 78.55 **BA Sum: 1963.75** **BA Sum:8253.46** **BA Sum: 560.26** **BA Sum: 132.75** **BA Sum:_____**

BA of Plot (sum of all spp./10,000 = 1.10 sq. m/plot)

BA per Ha (BA of plot x 25 = 27.47 sq. m/ha)

Shrub Layer 1-6 m in height

Avg Shrub Ht (m)	Shrub Layer Cover
3	6

Dom. Shrub Spp.	% cover
CACARO	6

Ground Layer < 1 m in height

Herb Layer	Herb Layer Cover
Grass	1
Sedge/Rush	4
Fern	1
Forb	1
Shrub	5
Brush	4
Moss	1
Leaf	7
Bare	0
Rock	4

Dom. Ground Spp.	% cover
VIACER	5
Carex	4

Grass-dominated Areas Only

Avg. Robel Pole:		cm
	N	
	S	
	E	
	W	

Cover Classes
1
0-2%
2
>2-5%
3
>5-12%
4
>12-25%
5
>25-50%
6
>50-75%
7
>75-100%

Observers : James Oehler and Allison Briggaman **Phone:** (603) 271-2461 **Date:** 7/9/2003

Point ID: AMWO 2-2 **Town:** Durham

Canopy Layer > 6 m in height

Avg Can Ht (m)	Canopy Cover	Dom Spp	% dom	Co-Dom Spp	% dom
7.75	3				

DBH (cm) & Basal Area (sq. cm) of Trees > 10 cm DBH

Species	Species	Species	Species	Species	Species	Species
ULAMER	ACRUBR					
DBH / BA	**DBH / BA**	**DBH / BA**	**DBH / BA**	**DBH / BA**	**DBH / BA**	**DBH / BA**
13.5/143.16	10.0/78.55					

BA Sum: 143.16 **BA Sum: 78.55** **BA Sum: _____** **BA Sum: _____** **BA Sum: _____** **BA Sum:_____** **BA Sum:_____**

BA of Plot (sum of all spp./10,000 = 0.02 sq. m/plot)

BA per Ha (BA of plot x 25 = 0.55 sq. m/ha)

Shrub Layer 1-6 m in height

Avg Shrub Ht (m)	Shrub Layer Cover
5	7

Dom. Shrub Spp.	% cover
ALRUGO	6
COAMOM	5
VIRECO	3
RHFRAN	3

Ground Layer < 1 m in height

Herb Layer	Herb Layer Cover
Grass	7
Sedge/Rush	5
Fern	3
Forb	6
Shrub	3
Brush	3
Moss	3
Leaf	5
Bare	6
Rock	1

Dom. Ground Spp.	% cover
Carex	7
POACEA	5
UNID	5
IMCOMP	4
Rubus	3

Grass-dominated Areas Only

Avg. Robel Pole:		cm
	N	
	S	
	E	
	W	

Cover Classes
1
0-2%
2
>2-5%
3
>5-12%
4
>12-25%
5
>25-50%
6
>50-75%
7
>75-100%

Observers : James Oehler and Allison Briggaman **Phone:** (603) 271-2461 **Date:** 7/9/2003

Point ID: AMWO 6-1 **Town:** Durham

Canopy Layer > 6 m in height

Avg Can Ht (m)	Canopy Cover	Dom Spp	% dom	Co-Dom Spp	% dom
4	7	QURUBR	40	ACRUBR	40

DBH (cm) & Basal Area (sq. cm) of Trees > 10 cm DBH

Species	Species	Species	Species	Species	Species	Species
ACRUBR	ACRUBR	PISTRO	CAOVAT	QURUBR	PRSERO	
DBH / BA	**DBH / BA**	**DBH / BA**	**DBH / BA**	**DBH / BA**	**DBH / BA**	**DBH / BA**
10.5/86.60	17.0/227.01	15.0/176.74	11.0/95.05	26.0/531.00	13.0/132.75	
12.0/113.11	28.5/638.02	31.0/754.87		24.0/452.45		
13.5/143.16		21.0/346.41		18.5/268.84		
17.0/227.01		27.5/594.03				
21.0/346.41		10.5/86.60				
19.0/283.57		26.5/551.62				
20.0/314.20		13.5/143.16				
19.0/283.57						

BA Sum: 2662.66 **BA Sum: 2653.43** **BA Sum: 95.05** **BA Sum: 1252.29** **BA Sum:132.75** **BA Sum:_____**

BA of Plot (sum of all spp./10,000 = 0.68 sq. m/plot)

BA per Ha (BA of plot x 25 = 16.99 sq. m/ha)

Shrub Layer 1-6 m in height

Avg Shrub Ht (m)	Shrub Layer Cover
2	4

Dom. Shrub Spp.	% cover
PISTRO	4
VILENT	3
VACORY	2
QURUBR	2

Grass-dominated Areas Only

Avg. Robel Pole:		cm
	N	
	S	
	E	
	W	

Ground Layer < 1 m in height

Herb Layer	Herb Layer Cover
Grass	0
Sedge/Rush	1
Fern	3
Forb	3
Shrub	3
Brush	2
Moss	2
Leaf	7
Bare	0
Rock	0

Dom. Ground Spp.	% cover
VACORY	3
ARHISP	2
MASTRU	1
THNOVE	1

Cover Classes
1
0-2%
2
>2-5%
3
>5-12%
4
>12-25%
5
>25-50%
6
>50-75%
7
>75-100%

Observers: James Oehler and Allison Briggaman **Phone:** (603) 271-2461 **Date:** 7/9/2003

Point ID: AMWO 6-2 **Town:** Durham

Canopy Layer > 6 m in height

Avg Can Ht (m)	Canopy Cover	Dom Spp	% dom	Co-Dom Spp	% dom
14	7				

DBH (cm) & Basal Area (sq. cm) of Trees > 10 cm DBH

Species	Species	Species	Species	Species	Species	Species
PISTRO	PISTRO	ACRUBR	ACRUBR	QUALBA	QURUBR	
DBH / BA	**DBH / BA**	**DBH / BA**	**DBH / BA**	**DBH / BA**	**DBH / BA**	**DBH / BA**
30.0/706.95	41.5/1352.83	17.0/227.01	11.0/95.05	17.0/227.01	14.5/165.15	
48.0/1809.79	20.0/314.20	12.0/113.11		15.5/188.72	13.0/132.75	
33.5/881.53		14.0/153.96			12.0/113.11	
42.5/1418.81		13.0/132.75			16.5/213.85	
21.0/346.41		15.5/188.72			16.0/201.09	
21.0/346.41		12.5/122.73			17.0/227.01	
37.0/1075.35		15.0/176.74				
22.5/397.66		14.0/153.96				

BA Sum: 8649.94 **BA Sum: 1364.03** **BA Sum: 415.73** **BA Sum:1052.96** **BA Sum:_____**

BA of Plot (sum of all spp./10,000 = 1.15 sq. m/plot)

BA per Ha (BA of plot x 25 = 28.71 sq. m/ha)

Shrub Layer 1-6 m in height

Avg Shrub Ht (m)	Shrub Layer Cover
3.5	2

Dom. Shrub Spp.	% cover
ACRUBR	1
PRSERO	1

Grass-dominated Areas Only

Avg. Robel Pole:		cm
	N	
	S	
	E	
	W	

Ground Layer < 1 m in height

Herb Layer	Herb Layer Cover
Grass	0
Sedge/Rush	1
Fern	3
Forb	3
Shrub	1
Brush	3
Moss	1
Leaf	7
Bare	0
Rock	0

Dom. Ground Spp.	% cover
ARHISP	3
THNOVE	3
MASTRU	2

Cover Classes
1
0-2%
2
>2-5%
3
>5-12%
4
>12-25%
5
>25-50%
6
>50-75%
7
>75-100%

Observers: James Oehler and Kim Tuttle **Phone:** (603) 271-2461 **Date:** 7/7/2003

Point ID: AMWO 7-1 **Town:** Lee

Canopy Layer > 6 m in height

Avg Can Ht (m)	Canopy Cover	Dom Spp	% dom	Co-Dom Spp	% dom
6.2	7	QURUBR	25-50	PISTRO	25-50

DBH (cm) & Basal Area (sq. cm) of Trees > 10 cm DBH

Species	Species	Species	Species	Species	Species	Species	Species
PISTRO	PISTRO	CAOVAT	QURUBR	ACRUBR	TSCANA	QUALBA	POTREM
DBH / BA	**DBH / BA**	**DBH / BA**	**DBH / BA**	**DBH / BA**	**DBH / BA**	**DBH / BA**	**DBH / BA**
37.5/1104.61	25.0/490.94	31.5/779.41	19.0/283.57	18.0/254.50	11.5/103.88	21.0/346.41	42.5/1418.81
27.5/594.03	23.0/415.53	17.5/240.56	26.5/551.62	10.0/78.55	26.0/531.00	30.0/706.95	
22.0/380.18	35.0/962.24	17.5/240.56	43.0/1452.39	32.5/829.68	10.5/86.60		
30.0/706.95	50.5/2003.22	13.0/132.75	32.5/829.68	16.0/201.09			
44.5/1555.49	19.5/298.69	16.0/201.09	15.0/176.74	15.5/188.72			
30.0/706.95							
41.5/1352.83							
30.5/730.71							

BA Sum: 11,302.37 BA Sum: 1594.37 BA Sum: 3294.00 BA Sum: 1552.54 BA Sum: 721.48 BA Sum: 1053.36 BA Sum:1418.81

BA of Plot (sum of all spp./10,000 = 2.09 sq. m/plot)

BA per Ha (BA of plot x 25 = 52.34 sq. m/ha)

Shrub Layer 1-6 m in height

Avg Shrub Ht (m)	Shrub Layer Cover
2	4

Dom. Shrub Spp.	% cover
VACORY	3
TSCANA	3

Ground Layer < 1 m in height

Herb Layer	Herb Layer Cover
Grass	0
Sedge/Rush	1
Fern	1
Forb	5
Shrub	2
Brush	3
Moss	2
Leaf	7
Bare	0
Rock	0

Dom. Ground Spp.	% cover
ARHISP	4
MACANA	3
GAPROC	2
MIRIPE	2

Grass-dominated Areas Only

Avg. Robel Pole:		cm
	N	
	S	
	E	
	W	

Cover Classes
1
0-2%
2
>2-5%
3
>5-12%
4
>12-25%
5
>25-50%
6
>50-75%
7
>75-100%

Observers : James Oehler and Allison Briggaman **Phone:** (603) 271-2461 **Date:** 7/9/2003

Point ID: AMWO 8-2 **Town:** Newmarket

Canopy Layer > 6 m in height

Avg Can Ht (m)	Canopy Cover	Dom Spp	% dom	Co-Dom Spp	% dom
13	6	ACRUBR	50-75		

DBH (cm) & Basal Area (sq. cm) of Trees > 10 cm DBH

Species	Species	Species	Species	Species	Species	Species
ACRUBR	ACRUBR	ULAMER				
DBH / BA	**DBH / BA**	**DBH / BA**	**DBH / BA**	**DBH / BA**	**DBH / BA**	**DBH / BA**
13.0/132.75	17.0/227.01	12.5/122.73				
14.0/153.96	24.5/471.50					
17.0/227.01	18.5/268.84					
10.5/86.60	18.0/254.50					
10.5/86.60	10.5/86.60					
20.5/330.11	18.5/268.84					
20.0/314.20	13.0/132.75					
20.0/314.20						

BA Sum: 3355.47 **BA Sum: 122.73** **BA Sum: _____** **BA Sum: _____** **BA Sum: _____** **BA Sum: _____**

BA of Plot (sum of all spp./10,000 = 0.35 sq. m/plot)

BA per Ha (BA of plot x 25 = 8.70 sq. m/ha)

Shrub Layer 1-6 m in height

Avg Shrub Ht (m)	Shrub Layer Cover
2.5	6

Dom. Shrub Spp.	% cover
VACORY	6
CLALNI	4
ROMULT	3
Alnus	2
CORNUS	3

Ground Layer < 1 m in height

Herb Layer	Herb Layer Cover
Grass	0
Sedge/Rush	5
Fern	5
Forb	3
Shrub	2
Brush	2
Moss	3
Leaf	7
Bare	1
Rock	0

Dom. Ground Spp.	% cover
Equisi	4
ONSENS	4
Carex	5

Grass-dominated Areas Only

Avg. Robel Pole:		cm
	N	
	S	
	E	
	W	

Cover Classes
1
0-2%
2
>2-5%
3
>5-12%
4
>12-25%
5
>25-50%
6
>50-75%
7
>75-100%

Observers : Allison Briggaman and Kim Tuttle **Phone:** (603) 271-2461 **Date:** 7/29/2003

Point ID: AMWO 12-2 **Town:** Exeter

Canopy Layer > 6 m in height

Avg Can Ht (m)	Canopy Cover	Dom Spp	% dom	Co-Dom Spp	% dom
11	7	ACRUBR	25-50		

DBH (cm) & Basal Area (sq. cm) of Trees > 10 cm DBH

Species	Species	Species	Species	Species	Species	Species
ACRUBR	ACRUBR	PISTRO				
DBH / BA	**DBH / BA**	**DBH / BA**	**DBH / BA**	**DBH / BA**	**DBH / BA**	**DBH / BA**
10.5/86.60	19.0/283.57	20.0/314.20				
10.0/78.55	18.0/254.50	23.5/433.79				
10.0/78.55	19.0/283.57	12.0/113.11				
11.0/95.05	11.0/95.05					
17.5/240.56	10.0/78.55					
13.0/132.75	19.5/298.69					
16.0/201.09	16.0/201.09					
19.0/283.57	18.5/268.84					

BA Sum: 2960.58 **BA Sum: 861.10** **BA Sum: _____** **BA Sum: _____** **BA Sum: _____** **BA Sum: _____**

BA of Plot (sum of all spp./10,000 = 0.38 sq. m/plot)

BA per Ha (BA of plot x 25 = 9.55 sq. m/ha)

Shrub Layer 1-6 m in height

Avg Shrub Ht (m)	Shrub Layer Cover
2	5

Dom. Shrub Spp.	% cover
VACORY	6
LYLIGU	5
VILENT	4

Grass-dominated Areas Only

Avg. Robel Pole:		cm
	N	
	S	
	E	
	W	

Ground Layer < 1 m in height

Herb Layer	Herb Layer Cover
Grass	3
Sedge/Rush	1
Fern	3
Forb	6
Shrub	5
Brush	4
Moss	3
Leaf	7
Bare	0
Rock	0

Dom. Ground Spp.	% cover
GAPROC	7
MACANA	5
Lycopo	5
PTAQUI	4

Cover Classes
1
0-2%
2
>2-5%
3
>5-12%
4
>12-25%
5
>25-50%
6
>50-75%
7
>75-100%

Observers: James Oehler and Allison Briggaman **Phone:** (603) 271-2461 **Date:** 7/15/2003

Point ID: AMWO 13-1 **Town:** Raymond

Canopy Layer > 6 m in height

Avg Can Ht (m)	Canopy Cover	Dom Spp	% dom	Co-Dom Spp	% dom
3.70	7	ACRUBR	25-50		

DBH (cm) & Basal Area (sq. cm) of Trees > 10 cm DBH

Species	Species	Species	Species	Species	Species	Species
ACRUBR	PISTRO					
DBH / BA	**DBH / BA**	**DBH / BA**	**DBH / BA**	**DBH / BA**	**DBH / BA**	**DBH / BA**
12.5/122.73	36.5/1046.48					
10.5/86.60	13.0/132.75					
	32.0/804.35					

BA Sum: 209.33 **BA Sum: 1983.58** **BA Sum: _____** **BA Sum: _____** **BA Sum: _____** **BA Sum: _____** **BA Sum: _____**

BA of Plot (sum of all spp./10,000 = 0.22 sq. m/plot)

BA per Ha (BA of plot x 25 = 5.48 sq. m/ha)

Shrub Layer 1-6 m in height

Avg Shrub Ht (m)	Shrub Layer Cover
2.5	3

Dom. Shrub Spp.	% cover
BELENT	3
ACRUBR	2

Ground Layer < 1 m in height

Herb Layer	Herb Layer Cover
Grass	1
Sedge/Rush	2
Fern	5
Forb	2
Shrub	2
Brush	2
Moss	1
Leaf	7
Bare	1
Rock	0

Dom. Ground Spp.	% cover
OSCINN	5
THNOVE	4
COPERE	3
Carex	2
MACANA	1

Grass-dominated Areas Only

Avg. Robel Pole:		cm
	N	
	S	
	E	
	W	

Cover Classes
1
0-2%
2
>2-5%
3
>5-12%
4
>12-25%
5
>25-50%
6
>50-75%
7
>75-100%

Observers: James Oehler and Allison Briggaman **Phone:** (603) 271-2461 **Date:** 7/15/2003

Point ID: AMWO 14-1 **Town:** Raymond

Canopy Layer > 6 m in height

Avg Can Ht (m)	Canopy Cover	Dom Spp	% dom	Co-Dom Spp	% dom
15.5	7	TSCANA	75-100		

DBH (cm) & Basal Area (sq. cm) of Trees > 10 cm DBH

Species	Species	Species	Species	Species	Species	Species
TSCANA	TSCANA	ACRUBR	BELENT	QURUBR		
DBH / BA	**DBH / BA**	**DBH / BA**	**DBH / BA**	**DBH / BA**	**DBH / BA**	**DBH / BA**
34.0/908.04	16.0/201.09	25.5/510.77	10.5/86.60	30.5/730.71		
12.0/113.11	43.5/1486.36	38.5/1164.31	12.0/113.11	37.0/1075.35		
14.5/165.15	34.0/908.04		13.0/132.75			
19.5/298.69	11.5/103.88		11.0/95.05			
33.0/855.41	38.0/1134.26					
20.0/314.20	50.0/1963.75					
11.5/103.88	14.0/153.96					
17.5/240.56						

BA Sum: 8950.38 **BA Sum: 1675.08** **BA Sum: 427.51** **BA Sum: 1806.06** **BA Sum: _____** **BA Sum: _____**

BA of Plot (sum of all spp./10,000 = 1.29 sq. m/plot)

BA per Ha (BA of plot x 25 = 32.15 sq. m/ha)

Shrub Layer 1-6 m in height

Avg Shrub Ht (m)	Shrub Layer Cover
2	3

Dom. Shrub Spp.	% cover
TSCANA	7

Ground Layer < 1 m in height

Herb Layer	Herb Layer Cover
Grass	0
Sedge/Rush	0
Fern	0
Forb	0
Shrub	0
Brush	2
Moss	0
Leaf	7
Bare	0
Rock	2

Dom. Ground Spp.	% cover

Grass-dominated Areas Only

Avg. Robel Pole:		cm
	N	
	S	
	E	
	W	

Cover Classes
1
0-2%
2
>2-5%
3
>5-12%
4
>12-25%
5
>25-50%
6
>50-75%
7
>75-100%

Observers: James Oehler and Kim Tuttle **Phone:** (603) 271-2461 **Date:** 7/7/2003

Point ID: AMWO 15-1 **Town:** Brentwood

Canopy Layer > 6 m in height

Avg Can Ht (m)	Canopy Cover	Dom Spp	% dom	Co-Dom Spp	% dom
4.65	6	ACRUBR	50-75		

DBH (cm) & Basal Area (sq. cm) of Trees > 10 cm DBH

Species	Species	Species	Species	Species	Species	Species
ACRUBR	ACRUBR	ACRUBR	BEPOPU	PISTRO		
DBH / BA	**DBH / BA**	**DBH / BA**	**DBH / BA**	**DBH / BA**	**DBH / BA**	**DBH / BA**
13.5/143.16	23.0/415.53	12.0/113.11	10.0/78.55	25.5/510.77		
12.0/113.11	13.0/132.75	16.0/201.09	11.5/103.88	24.5/471.50		
10.5/86.60	21.0/346.41	19.0/283.57				
20.0/314.20	11.0/95.05	15.5/188.72				
24.0/452.45	12.0/113.11	26.5/551.62				
11.0/95.05	19.5/298.69					
17.0/227.01	20.5/330.11					
23.0/415.53	37.0/1075.35					

BA Sum: 5992.22 BA Sum: 182.43 BA Sum: 982.27 BA Sum: _____ BA Sum: _____

BA of Plot (sum of all spp./10,000 = 0.72 sq. m/plot)

BA per Ha (BA of plot x 25 = 17.89 sq. m/ha)

Shrub Layer 1-6 m in height

Avg Shrub Ht (m)	Shrub Layer Cover
2	5

Dom. Shrub Spp.	% cover
VIRECO	5
UNID	4

Ground Layer < 1 m in height

Herb Layer	Herb Layer Cover
Grass	1
Sedge/Rush	2
Fern	7
Forb	2
Shrub	2
Brush	3
Moss	2
Leaf	6
Bare	0
Rock	0

Dom. Ground Spp.	% cover
COPERE	7
Equisi	2
Rubus	1

Grass-dominated Areas Only

Avg. Robel Pole:		cm
	N	
	S	
	E	
	W	

Cover Classes
1
0-2%
2
>2-5%
3
>5-12%
4
>12-25%
5
>25-50%
6
>50-75%
7
>75-100%

Observers : James Oehler and Kim Tuttle **Phone:** (603) 271-2461 **Date:** 7/7/2003

Point ID: AMWO 16-1 **Town:** Fremont

Canopy Layer > 6 m in height

Avg Can Ht (m)	Canopy Cover	Dom Spp	% dom	Co-Dom Spp	% dom
7.75	6	PIRIGI	50-75	PISTRO	12-25

DBH (cm) & Basal Area (sq. cm) of Trees > 10 cm DBH

Species	Species	Species	Species	Species	Species	Species
PISTRO	PISTRO	PIRIGI	PIRIGI	ACRUBR	PIRESI	
DBH / BA	**DBH / BA**	**DBH / BA**	**DBH / BA**	**DBH / BA**	**DBH / BA**	**DBH / BA**
21.0/346.41	29.0/660.61	24.0/452.45	28.0/615.83	14.0/153.96	31.0/754.87	
28.0/615.83	31.0/754.87	29.0/660.61	21.0/346.41	15.0/176.74		
14.5/165.15		31.0/754.87		10.0/78.55		
9.5/70.89		33.0/855.41				
16.0/201.09		27.5/594.03				
19.0/283.57		33.0/855.41				
29.0/660.61		13.0/132.75				
23.0/415.53		32.0/804.35				

BA Sum: 4174.56 **BA Sum: 6072.12** **BA Sum: 409.25** **BA Sum: 754.87** **BA Sum: _____**

BA of Plot (sum of all spp./10,000 = 1.14 sq. m/plot)

BA per Ha (BA of plot x 25 = 28.53 sq. m/ha)

Shrub Layer 1-6 m in height

Avg Shrub Ht (m)	Shrub Layer Cover
2.5	5

Dom. Shrub Spp.	% cover
VACORY	5
ACRUBR	4
LYLIGU	3

Grass-dominated Areas Only

Avg. Robel Pole:		cm
	N	
	S	
	E	
	W	

Ground Layer < 1 m in height

Herb Layer	Herb Layer Cover
Grass	1
Sedge/Rush	1
Fern	1
Forb	2
Shrub	2
Brush	3
Moss	1
Leaf	7
Bare	0
Rock	0

Dom. Ground Spp.	% cover
MACANA	1
VACORY	1
KAANGU	1

Cover Classes
1
0-2%
2
>2-5%
3
>5-12%
4
>12-25%
5
>25-50%
6
>50-75%
7
>75-100%

Observers: James Oehler and Allison Briggaman **Phone:** (603) 271-2461 **Date:** 7/1/2003

Point ID: WHWI 2-1 **Town:** Lee

Canopy Layer > 6 m in height

Avg Can Ht (m)	Canopy Cover	Dom Spp	% dom	Co-Dom Spp	% dom
14	7				

DBH (cm) & Basal Area (sq. cm) of Trees > 10 cm DBH

Species	Species	Species	Species	Species	Species	Species
QURUBR	QUALBA	PRSERO	PISTRO	TSCANA		
DBH / BA	**DBH / BA**	**DBH / BA**	**DBH / BA**	**DBH / BA**	**DBH / BA**	**DBH / BA**
20.0 / 314.20	12.0 / 113.11	12.5 / 122.73	57.0 / 2552.09	13.0 / 132.75		
19.0 / 283.57	72.5 / 4128.78	10.5 / 86.60				
18.0 / 254.50		22.5 / 397.66				
16.5 / 213.85		21.5 / 363.10				
26.5 / 551.62		26.5 / 551.62				

BA Sum: 1617.74 BA Sum: 4241.89 BA Sum: 1521.71 BA Sum: 2552.09 BA Sum: 132.75 BA Sum:___ BA Sum:____

BA of Plot (sum of all spp./10,000 = 1.01 sq. m/plot)

BA per Ha (BA of plot x 25 = 25.17 sq. m/ha)

Shrub Layer 1-6 m in height

Avg Shrub Ht (m)	Shrub Layer Cover
5	4

Dom. Shrub Spp.	% cover
ACRUBR	7
QUALBA	3

Grass-dominated Areas Only

Avg. Robel Pole:		cm
	N	
	S	
	E	
	W	

Ground Layer < 1 m in height

Herb Layer	Herb Layer Cover
Grass	1
Sedge/Rush	1
Fern	0
Forb	5
Shrub	4
Brush	3
Moss	1
Leaf	7
Bare	0
Rock	0

Dom. Ground Spp.	% cover
MACANA	5
TRBORE	2
Vaccin	2
Lycopo	2
QUALBA	3

Cover Classes
1
0-2%
2
>2-5%
3
>5-12%
4
>12-25%
5
>25-50%
6
>50-75%
7
>75-100%

Observers: James Oehler and Allison Briggaman **Phone:** (603) 271-2461 **Date:** 7/1/2003

Point ID: WHWI 2-2 **Town:** Lee

Canopy Layer > 6 m in height

Avg Can Ht (m)	Canopy Cover	Dom Spp	% dom	Co-Dom Spp	% dom
18	7	QURUBR	40	ACRUBR	40

DBH (cm) & Basal Area (sq. cm) of Trees > 10 cm DBH

Species	Species	Species	Species	Species	Species	Species
PISTRO	PRSERO	QURUBR	FAGRAN	ACRUBR	JUVIRG	
DBH / BA	**DBH / BA**	**DBH / BA**	**DBH / BA**	**DBH / BA**	**DBH / BA**	**DBH / BA**
47.5/1772.28	14.5/165.15	13.5/143.16	11.0/95.05	15.5/188.72	16.0/201.09	
	13.0/132.75	11.5/103.88	13.5/143.16	11.0/95.05	13.0/132.75	
	21.5/363.10		17.0/227.01	12.0/113.11	15.5/188.72	
	18.0/254.50				13.0/132.75	

BA Sum: 1772.28 BA Sum:915.50 BA Sum:247.04 BA Sum: 465.22 BA Sum: 396.88 BA Sum: 655.31 BA Sum:_____

BA of Plot (sum of all spp./10,000 = 0.45 sq. m/plot)

BA per Ha (BA of plot x 25 = 11.13 sq. m/ha)

Shrub Layer 1-6 m in height

Avg Shrub Ht (m)	Shrub Layer Cover
5	3

Dom. Shrub Spp.	% cover
ACRUBR	3

Ground Layer < 1 m in height

Herb Layer	Herb Layer Cover
Grass	0
Sedge/Rush	1
Fern	0
Forb	5
Shrub	4
Brush	4
Moss	0
Leaf	7
Bare	0
Rock	0

Dom. Ground Spp.	% cover
MACANA	5
Lycopo	4
Vaccin	2
QUALBA	2

Grass-dominated Areas Only

Avg. Robel Pole:		cm
	N	
	S	
	E	
	W	

Cover Classes
1
0-2%
2
>2-5%
3
>5-12%
4
>12-25%
5
>25-50%
6
>50-75%
7
>75-100%

Observers : James Oehler and Allison Briggaman **Phone:** (603) 271-2461 **Date:** 6/12/2003

Point ID: WHWI 3-1 **Town:** Lee

Canopy Layer > 6 m in height

Avg Can Ht (m)	Canopy Cover	Dom Spp	% dom	Co-Dom Spp	% dom
13.64	7	ACRUBR	40		

DBH (cm) & Basal Area (sq. cm) of Trees > 10 cm DBH

Species	Species	Species	Species	Species	Species	Species	Species
TSCANA	TSCANA	QURUBR	PISTRO	ACRUBR	POGRAN	POGRAN	QUALBA
DBH / BA	**DBH / BA**	**DBH / BA**	**DBH / BA**	**DBH / BA**	**DBH / BA**	**DBH / BA**	**DBH / BA**
15.5/188.72	11.5/103.88	20.5/330.11	10.0/78.55	10.5/86.60	10.0/78.55	13.5/143.16	12.0/113.11
11.0/95.05	10.5/86.60	43.5/1486.36	23.5/433.79	15.0/176.74	27.5/594.03	17.0/227.01	33.5/881.53
10.0/78.55	11.0/95.05	31.5/779.41		11.5/103.88	23.5/433.79	21.0/346.41	
10.0/78.55				14.0/153.96	12.5/122.73	11.0/95.05	
19.0/283.57				14.0/153.96	13.0/132.75	11.0/95.05	
13.5/143.16				14.5/165.15	31.0/754.87		
12.5/122.73				27.5/594.03	13.0/132.75		
18.5/268.84				21.0/346.41	22.0/380.18		
17.0/227.01				13.0/132.75	19.0/283.57		

BA Sum: 1771.71 BA Sum: 2595.88 BA Sum: 512.34 BA Sum: 1913.48 BA Sum: 3819.90 BA Sum: 994.64

BA of Plot (sum of all spp./10,000 = 1.16 sq. m/plot)

BA per Ha (BA of plot x 25 = 29.02 sq. m/ha)

Shrub Layer 1-6 m in height

Avg Shrub Ht (m)	Shrub Layer Cover
4	4

Dom. Shrub Spp.	% cover
TSCANA	7

Grass-dominated Areas Only

Avg. Robel Pole:		cm
	N	
	S	
	E	
	W	

Ground Layer < 1 m in height

Herb Layer	Herb Layer Cover
Grass	0
Sedge/Rush	1
Fern	2
Forb	5
Shrub	2
Brush	3
Moss	1
Leaf	7
Bare	0
Rock	1

Dom. Ground Spp.	% cover
ARHISP	2
MACANA	2
Lycopo	2
QURUBR	2
QUALBA	2

Cover Classes
1
0-2%
2
>2-5%
3
>5-12%
4
>12-25%
5
>25-50%
6
>50-75%
7
>75-100%

Observers: James Oehler and Allison Briggaman **Phone:** (603) 271-2461 **Date:** 6/12/2003

Point ID: WHWI 3-2 **Town:** Lee

Canopy Layer > 6 m in height

Avg Can Ht (m)	Canopy Cover	Dom Spp	% dom	Co-Dom Spp	% dom
12.4	7	ACRUBR	40	QURUBR	40

DBH (cm) & Basal Area (sq. cm) of Trees > 10 cm DBH

Species	Species	Species	Species	Species	Species	Species	Species
QURUBR	QURUBR	Mallus	BEPOPU	CAOVAT	ULAMER	JUVIRG	PISTRO
DBH / BA	**DBH / BA**	**DBH / BA**	**DBH / BA**	**DBH / BA**	**DBH / BA**	**DBH / BA**	**DBH / BA**
15.0/176.74	18.0/254.50	11.0/95.05	13.0/132.75	10.0/78.55	12.5/122.73	30.0/706.95	79.0/4902.31
37.0/1075.35	17.0/227.01					22.5/397.66	
21.0/346.41							
12.0/113.11							
10.5/86.60							
11.5/103.88							
19.0/283.57							
14.5/165.15							

BA Sum:2832.32 BA Sum:95.05 BA Sum:132.75 BA Sum:78.55 BA Sum:122.73 BA Sum:1104.61 BA Sum:4902.31

BA of Plot (sum of all spp./10,000 = 0.93 sq. m/plot)

BA per Ha (BA of plot x 25 = 23.17 sq. m/ha)

Shrub Layer 1-6 m in height

Avg Shrub Ht (m)	Shrub Layer Cover
4	3

Dom. Shrub Spp.	% cover
ACRUBR	7

Ground Layer < 1 m in height

Herb Layer	Herb Layer Cover
Grass	0
Sedge/Rush	1
Fern	0
Forb	5
Shrub	3
Brush	4
Moss	0
Leaf	7
Bare	0
Rock	0

Dom. Ground Spp.	% cover
MACANA	4
TRBORE	3
TACANA	1
PISTRO	2
Rubus	2
SOPATU	2

Grass-dominated Areas Only

Avg. Robel Pole:		cm
	N	
	S	
	E	
	W	

Cover Classes
1
0-2%
2
>2-5%
3
>5-12%
4
>12-25%
5
>25-50%
6
>50-75%
7
>75-100%

Observers : James Oehler and Fred Pinch **Phone:** (603) 271-2461 **Date:** 6/24/2003

Point ID: WHWI 4-1 **Town:** Lee

Canopy Layer > 6 m in height

Avg Can Ht (m)	Canopy Cover	Dom Spp	% dom	Co-Dom Spp	% dom
15	7	PISTRO	40		

DBH (cm) & Basal Area (sq. cm) of Trees > 10 cm DBH

Species	Species	Species	Species	Species	Species	Species
QURUBR	JUVIRG	PISTRO	ACRUBR	POGRAN		
DBH / BA	**DBH / BA**	**DBH / BA**	**DBH / BA**	**DBH / BA**	**DBH / BA**	**DBH / BA**
10.5/86.60	28.0/615.83	48.5/1847.69	17.0/227.01	10.5/86.60		
19.0/283.57		13.5/143.16	28.0/615.83			
26.0/531.00		10.0/78.55	15.0/176.74			
10.0/78.55		13.5/143.16				
21.5/363.10		42.0/1385.62				
12.0/113.11		53.0/2206.47				
		12.0/113.11				

BA Sum: 1455.93 **BA Sum:615.83** **BA Sum:5917.76** **BA Sum:1019.58** **BA Sum:86.60** **BA Sum:_____** **BA Sum:_____**

BA of Plot (sum of all spp./10,000 = 0.91 sq. m/plot)

BA per Ha (BA of plot x 25 = 22.74 sq. m/ha)

Shrub Layer 1-6 m in height

Avg Shrub Ht (m)	Shrub Layer Cover
5	6

Dom. Shrub Spp.	% cover
ACRUBR	5
QURUBR	4
PISTRO	2
JUVIRG	2
PRSERO	2

Ground Layer < 1 m in height

Herb Layer	Herb Layer Cover
Grass	0
Sedge/Rush	1
Fern	0
Forb	4
Shrub	4
Brush	2
Moss	1
Leaf	6
Bare	0
Rock	0

Dom. Ground Spp.	% cover
TORADI	3
MACANA	2
JUCOMM	4
QURUBR	1
ELUMBE	1
BETHUN	1

Cover Classes
1
0-2%
2
>2-5%
3
>5-12%
4
>12-25%
5
>25-50%
6
>50-75%
7
>75-100%

Grass-dominated Areas Only

Avg. Robel Pole:		cm
	N	
	S	
	E	
	W	

Observers : James Oehler and Fred Pinch **Phone:** (603) 271-2461 **Date:** 6/24/2003

Point ID: WHWI 4-2 **Town:** Lee

Canopy Layer > 6 m in height

Avg Can Ht (m)	Canopy Cover	Dom Spp	% dom	Co-Dom Spp	% dom
11	7	QURUBR	50	ACRUBR	40

DBH (cm) & Basal Area (sq. cm) of Trees > 10 cm DBH

Species	Species	Species	Species	Species	Species	Species
ACRUBR	QURUBR	QURUBR	POTREM	BEPOPU		
DBH / BA	**DBH / BA**	**DBH / BA**	**DBH / BA**	**DBH / BA**	**DBH / BA**	**DBH / BA**
18.0/254.50	15.5/188.72	21.0/346.41	18.0/254.50	11.0/95.05		
11.0/95.05	18.5/268.84	19.0/283.57	18.0/254.50	11.0/95.05		
15.5/188.72	16.0/201.09		17.5/240.56	10.0/78.55		
15.0/176.74	23.0/415.53		18.5/268.84	10.5/86.60		
11.0/95.05	19.0/283.57			10.0/78.55		
15.5/188.72	11.5/103.88					
	18.5/268.84					
	23.5/433.79					

BA Sum:998.78 **BA Sum:2794.24** **BA Sum:1018.40** **BA Sum:433.80** **BA Sum:_____** **BA Sum:_____**

BA of Plot (sum of all spp./10,000 = 0.52 sq. m/plot)

BA per Ha (BA of plot x 25 = 13.11 sq. m/ha)

Shrub Layer 1-6 m in height

Avg Shrub Ht (m)	Shrub Layer Cover
2	4

Dom. Shrub Spp.	% cover
COSTOL	3
CACARO	1
RHFRAN	1

Grass-dominated Areas Only

Avg. Robel Pole:		cm
	N	
	S	
	E	
	W	

Ground Layer < 1 m in height

Herb Layer	Herb Layer Cover
Grass	0
Sedge/Rush	1
Fern	0
Forb	4
Shrub	2
Brush	2
Moss	2
Leaf	7
Bare	0
Rock	0

Dom. Ground Spp.	% cover
Vaccin	3
COSTOL	2
SPLATI	1
FRAMER	1
RHFRAN	1

Cover Classes
1
0-2%
2
>2-5%
3
>5-12%
4
>12-25%
5
>25-50%
6
>50-75%
7
>75-100%

Observers : Allison Briggaman and Kim Tuttle **Phone:** (603) 271-2461 **Date:** 7/18/2003

Point ID: WHWI 6-1 **Town:** Durham

Canopy Layer > 6 m in height

Avg Can Ht (m)	Canopy Cover	Dom Spp	% dom	Co-Dom Spp	% dom

DBH (cm) & Basal Area (sq. cm) of Trees > 10 cm DBH

Species	Species	Species	Species	Species	Species	Species
PIRIGI						
DBH / BA	**DBH / BA**	**DBH / BA**	**DBH / BA**	**DBH / BA**	**DBH / BA**	**DBH / BA**
20.5/330.11						
25.0/490.94						
34.0/908.04						

BA Sum: 1729.09 **BA Sum: _____** **BA Sum: _____** **BA Sum: _____** **BA Sum: _____** **BA Sum: _____** **BA Sum: _____**

BA of Plot (sum of all spp./10,000 = 0.17 sq. m/plot)

BA per Ha (BA of plot x 25 = 4.32 sq. m/ha)

Shrub Layer 1-6 m in height

Avg Shrub Ht (m)	Shrub Layer Cover
2.5	5

Dom. Shrub Spp.	% cover
PISTRO	4
QUILIC	4
QURUBR	4

Grass-dominated Areas Only

Avg. Robel Pole:		cm
	N	
	S	
	E	
	W	

Ground Layer < 1 m in height

Herb Layer	Herb Layer Cover
Grass	1
Sedge/Rush	3
Fern	0
Forb	5
Shrub	5
Brush	4
Moss	1
Leaf	7
Bare	1
Rock	1

Dom. Ground Spp.	% cover
Vaccin	4
Lycopo	5
Carex	3

Cover Classes
1
0-2%
2
>2-5%
3
>5-12%
4
>12-25%
5
>25-50%
6
>50-75%
7
>75-100%

Observers : James Oehler and Allison Briggaman **Phone:** (603) 271-2461 **Date:** 7/15/2003

Point ID: WHWI 15-1 **Town:** Nottingham

Canopy Layer > 6 m in height

Avg Can Ht (m)	Canopy Cover	Dom Spp	% dom	Co-Dom Spp	% dom
14	5				

DBH (cm) & Basal Area (sq. cm) of Trees > 10 cm DBH

Species	Species	Species	Species	Species	Species	Species
ACRUBR	QUALBA	CAGLAB				
DBH / BA	**DBH / BA**	**DBH / BA**	**DBH / BA**	**DBH / BA**	**DBH / BA**	**DBH / BA**
16.0/201.09	23.0/415.53	20.0/314.20				
13.0/132.75	25.0/490.94	22.0/380.18				
14.0/153.96	19.5/298.69	21.0/346.41				
13.5/143.16						
15.5/188.72						
15.0/176.74						

BA Sum: 996.42 BA Sum: 1205.16 BA Sum: 1040.79 BA Sum: _____ BA Sum: _____ BA Sum: _____ BA Sum:_____

BA of Plot (sum of all spp./10,000 = 0.32 sq. m/plot)

BA per Ha (BA of plot x 25 = 8.11 sq. m/ha)

Shrub Layer 1-6 m in height

Avg Shrub Ht (m)	Shrub Layer Cover
4	6

Dom. Shrub Spp.	% cover
BELENT	5
HAVIRG	5

Grass-dominated Areas Only

Avg. Robel Pole:		cm
	N	
	S	
	E	
	W	

Ground Layer < 1 m in height

Herb Layer	Herb Layer Cover
Grass	1
Sedge/Rush	4
Fern	0
Forb	4
Shrub	5
Brush	3
Moss	1
Leaf	6
Bare	0
Rock	4

Dom. Ground Spp.	% cover
GAPROC	4
Carex	4
COPERE	2

Cover Classes
1
0-2%
2
>2-5%
3
>5-12%
4
>12-25%
5
>25-50%
6
>50-75%
7
>75-100%

Observers : Allison Briggaman and Kim Tuttle **Phone:** (603) 271-2461 **Date:** 7/16/2003

Point ID: WHWI 15-2 **Town:** Nottingham

Canopy Layer > 6 m in height

Avg Can Ht (m)	Canopy Cover	Dom Spp	% dom	Co-Dom Spp	% dom
14	6				

DBH (cm) & Basal Area (sq. cm) of Trees > 10 cm DBH

Species	Species	Species	Species	Species	Species	Species
TSCANA	QUALBA	CAOVAT	PISTRO			
DBH / BA	**DBH / BA**	**DBH / BA**	**DBH / BA**	**DBH / BA**	**DBH / BA**	**DBH / BA**
21.5/363.10	22.0/380.18	30.0/706.95	10.5/86.60			
11.5/103.88	29.0/660.61	19.0/283.57	14.5/165.15			
	27.5/594.03	22.5/397.66				
		14.5/165.15				
		15.0/176.74				

BA Sum: 466.98 BA Sum: 1634.82 BA Sum: 1730.07 BA Sum: 251.75 BA Sum: _____ BA Sum: _____ BA Sum:_____

BA of Plot (sum of all spp./10,000 = 0.41 sq. m/plot)

BA per Ha (BA of plot x 25 = 10.21 sq. m/ha)

Shrub Layer 1-6 m in height

Avg Shrub Ht (m)	Shrub Layer Cover
2.5	4

Dom. Shrub Spp.	% cover
BELENT	4
QUALBA	3
CAOVAT	3

Grass-dominated Areas Only

Avg. Robel Pole:		cm
	N	
	S	
	E	
	W	

Ground Layer < 1 m in height

Herb Layer	Herb Layer Cover
Grass	2
Sedge/Rush	3
Fern	2
Forb	3
Shrub	4
Brush	4
Moss	1
Leaf	6
Bare	0
Rock	2

Dom. Ground Spp.	% cover
COPERE	2
Carex	3
Vaccin	1

Cover Classes
1
0-2%
2
>2-5%
3
>5-12%
4
>12-25%
5
>25-50%
6
>50-75%
7
>75-100%

Observers : Allison Briggaman and Kim Tuttle **Phone:** (603) 271-2461 **Date:** 7/16/2003

Point ID: WHWI 15-3 **Town:** Nottingham

Canopy Layer > 6 m in height

Avg Can Ht (m)	Canopy Cover	Dom Spp	% dom	Co-Dom Spp	% dom
15.5	7				

DBH (cm) & Basal Area (sq. cm) of Trees > 10 cm DBH

Species	Species	Species	Species	Species	Species	Species	Species
ACRUBR	QUALBA	QUALBA	PISTRO	BELENT	QURUBR	QURUBR	TSCANA
DBH / BA	**DBH / BA**	**DBH / BA**	**DBH / BA**	**DBH / BA**	**DBH / BA**	**DBH / BA**	**DBH / BA**
12.5/122.73	21.0/346.41	25.0/490.94	18.5/268.84	15.5/188.72	20.5/330.11	19.0/283.57	14.0/153.96
11.0/95.05	13.5/143.16	22.0/380.18	39.0/1194.75		25.0/490.94	25.5/510.77	
	19.5/298.69	22.0/380.18	12.0/113.11		24.5/471.50	20.0/314.20	
	13.0/132.75	23.5/433.79	11.0/95.05		22.0/380.18	25.5/510.77	
	16.0/201.09	16.0/201.09			26.5/551.62		
	14.0/153.96				30.0/706.95		
	18.0/254.50				23.0/415.53		
	17.0/227.01				24.5/471.50		

BA Sum: 217.78 **BA Sum: 3643.75** **BA Sum: 1671.75** **BA Sum: 188.72** **BA Sum: 5437.64** **BA Sum: 153.96**

BA of Plot (sum of all spp./10,000 = 1.13 sq. m/plot)

BA per Ha (BA of plot x 25 = 28.28 sq. m/ha)

Shrub Layer 1-6 m in height

Avg Shrub Ht (m)	Shrub Layer Cover
2.5	3

Dom. Shrub Spp.	% cover
ACSACC	3
HAVIRG	2
BELENT	2

Ground Layer < 1 m in height

Herb Layer	Herb Layer Cover
Grass	1
Sedge/Rush	2
Fern	0
Forb	3
Shrub	4
Brush	3
Moss	2
Leaf	7
Bare	0
Rock	5

Dom. Ground Spp.	% cover
Vaccin	4
GAPROC	3
MACANA	2

Cover Classes
1
0-2%
2
>2-5%
3
>5-12%
4
>12-25%
5
>25-50%
6
>50-75%
7
>75-100%

Grass-dominated Areas Only

Avg. Robel Pole:		cm
	N	
	S	
	E	
	W	

Observers : Allison Briggaman and Fred Pinch **Phone:** (603) 271-2461 **Date:** 6/25/2003

Point ID: WARB 3-1 **Town:** Newmarket

Canopy Layer > 6 m in height

Avg Can Ht (m)	Canopy Cover	Dom Spp	% dom	Co-Dom Spp	% dom

DBH (cm) & Basal Area (sq. cm) of Trees > 10 cm DBH

Species	Species	Species	Species	Species	Species	Species
DBH / BA	DBH / BA	DBH / BA	DBH / BA	DBH / BA	DBH / BA	DBH / BA

BA Sum: _____ BA Sum: _____ BA Sum: _____ BA Sum: _____ BA Sum: _____ BA Sum:_____ BA Sum:_____

BA of Plot (sum of all spp./10,000 = _____ sq. m/plot)

BA per Ha (BA of plot x 25 = _____ sq. m/ha)

Shrub Layer 1-6 m in height

Avg Shrub Ht (m)	Shrub Layer Cover

Dom. Shrub Spp.	% cover

Grass-dominated Areas Only

Avg. Robel Pole:		cm
14	N	70
30	S	150
10	E	50
11	W	55

Ground Layer < 1 m in height

Herb Layer	Herb Layer Cover
Grass	7
Sedge/Rush	0
Fern	0
Forb	5
Shrub	0
Brush	0
Moss	0
Leaf	0
Bare	0
Rock	0

Dom. Ground Spp.	% cover
Poacea	7
Asclep	4
VICRAC	4

Cover Classes
1
0-2%
2
>2-5%
3
>5-12%
4
>12-25%
5
>25-50%
6
>50-75%
7
>75-100%

Observers : Allison Briggaman and Fred Pinch **Phone:** (603) 271-2461 **Date:** 6/25/2003

Point ID: WARB 3-2 **Town:** Newmarket

Canopy Layer > 6 m in height

Avg Can Ht (m)	Canopy Cover	Dom Spp	% dom	Co-Dom Spp	% dom

DBH (cm) & Basal Area (sq. cm) of Trees > 10 cm DBH

Species	Species	Species	Species	Species	Species	Species
DBH / BA	DBH / BA	DBH / BA	DBH / BA	DBH / BA	DBH / BA	DBH / BA

BA Sum: _____ BA Sum: _____ BA Sum: _____ BA Sum: _____ BA Sum: _____ BA Sum:_____ BA Sum:_____

BA of Plot (sum of all spp./10,000 = _____ sq. m/plot)

BA per Ha (BA of plot x 25 = _____ sq. m/ha)

Shrub Layer 1-6 m in height

Avg Shrub Ht (m)	Shrub Layer Cover
1.5	1

Dom. Shrub Spp.	% cover
POTREM	1

Ground Layer < 1 m in height

Herb Layer	Herb Layer Cover
Grass	7
Sedge/Rush	0
Fern	0
Forb	0
Shrub	0
Brush	0
Moss	0
Leaf	7
Bare	0
Rock	0

Dom. Ground Spp.	% cover
Poacea	7

Grass-dominated Areas Only

Avg. Robel Pole:		cm
14	N	70
16	S	80
21	E	105
18	W	90

Cover Classes
1
0-2%
2
>2-5%
3
>5-12%
4
>12-25%
5
>25-50%
6
>50-75%
7
>75-100%

Observers : Allison Briggaman and Fred Pinch **Phone:** (603) 271-2461 **Date:** 6/25/2003

Point ID: WARB 3-3 **Town:** Newmarket

Canopy Layer > 6 m in height

Avg Can Ht (m)	Canopy Cover	Dom Spp	% dom	Co-Dom Spp	% dom

DBH (cm) & Basal Area (sq. cm) of Trees > 10 cm DBH

Species	Species	Species	Species	Species	Species	Species
DBH / BA	DBH / BA	DBH / BA	DBH / BA	DBH / BA	DBH / BA	DBH / BA

BA Sum: _____ BA Sum: _____ BA Sum: _____ BA Sum: _____ BA Sum: _____ BA Sum:_____ BA Sum:_____

BA of Plot (sum of all spp./10,000 = _____ sq. m/plot)

BA per Ha (BA of plot x 25 = _____ sq. m/ha)

Shrub Layer 1-6 m in height

Avg Shrub Ht (m)	Shrub Layer Cover

Dom. Shrub Spp.	% cover

Grass-dominated Areas Only

Avg. Robel Pole:		cm
14	N	70
15	S	75
30	E	150
15	W	75

Ground Layer < 1 m in height

Herb Layer	Herb Layer Cover
Grass	7
Sedge/Rush	0
Fern	0
Forb	4
Shrub	0
Brush	0
Moss	0
Leaf	7
Bare	0
Rock	0

Dom. Ground Spp.	% cover
Poacea	7
TORADI	4
VICRAC	1

Cover Classes
1
0-2%
2
>2-5%
3
>5-12%
4
>12-25%
5
>25-50%
6
>50-75%
7
>75-100%

Observers : Allison Briggaman and Fred Pinch **Phone:** (603) 271-2461 **Date:** 6/25/2003

Point ID: WARB 7-1 **Town:** Lee

Canopy Layer > 6 m in height

Avg Can Ht (m)	Canopy Cover	Dom Spp	% dom	Co-Dom Spp	% dom
7.75	1				

DBH (cm) & Basal Area (sq. cm) of Trees > 10 cm DBH

Species	Species	Species	Species	Species	Species	Species
PISTRO						
DBH / BA	**DBH / BA**	**DBH / BA**	**DBH / BA**	**DBH / BA**	**DBH / BA**	**DBH / BA**
13.5/143.16						
21.0/346.41						
19.0/283.57						
20.0/314.20						

BA Sum: 1087.34 **BA Sum: _____** **BA Sum: _____** **BA Sum: _____** **BA Sum: _____** **BA Sum:_____** **BA Sum:_____**

BA of Plot (sum of all spp./10,000 = 0.11 sq. m/plot)

BA per Ha (BA of plot x 25 = 2.72 sq. m/ha)

Shrub Layer 1-6 m in height

Avg Shrub Ht (m)	Shrub Layer Cover
3	4

Dom. Shrub Spp.	% cover
ROMULT	3
ELUMBE	2

Ground Layer < 1 m in height

Herb Layer	Herb Layer Cover
Grass	7
Sedge/Rush	0
Fern	0
Forb	6
Shrub	4
Brush	0
Moss	0
Leaf	4
Bare	0
Rock	0

Dom. Ground Spp.	% cover
Poacea	7
VICRAC	4
SPTOME	3

Grass-dominated Areas Only

Avg. Robel Pole:		cm
14	N	70
14	S	70
11	E	55
16	W	80

Cover Classes
1
0-2%
2
>2-5%
3
>5-12%
4
>12-25%
5
>25-50%
6
>50-75%
7
>75-100%

Observers : Allison Briggaman and Fred Pinch **Phone:** (603) 271-2461 **Date:** 6/25/2003

Point ID: WARB 7-3 **Town:** Lee

Canopy Layer > 6 m in height

Avg Can Ht (m)	Canopy Cover	Dom Spp	% dom	Co-Dom Spp	% dom
15.5	7	ACRUBR	85		

DBH (cm) & Basal Area (sq. cm) of Trees > 10 cm DBH

Species	Species	Species	Species	Species	Species	Species
BEPOPU	ACRUBR	ACRUBR	PRSERO	CACARO		
DBH / BA	**DBH / BA**	**DBH / BA**	**DBH / BA**	**DBH / BA**	**DBH / BA**	**DBH / BA**
17.0/227.01	26.0/531.00	11.0/95.05	18.5/268.84	10.0/78.55		
14.0/153.96	29.0/660.61	23.0/415.53	19.5/298.69			
14.0/153.96	34.0/908.04					
16.5/213.85	24.0/452.45					
	27.0/572.63					
	14.5/165.15					
	15.5/188.72					
	21.0/346.41					

BA Sum: 748.78 **BA Sum: 4335.59** **BA Sum: 567.53** **BA Sum: 78.55** **BA Sum:_____** **BA Sum:_____**

BA of Plot (sum of all spp./10,000 = 0.57 sq. m/plot)

BA per Ha (BA of plot x 25 = 14.33 sq. m/ha)

Shrub Layer 1-6 m in height

Avg Shrub Ht (m)	Shrub Layer Cover
2.5	6

Dom. Shrub Spp.	% cover
Cornus	5
RHFRAN	4

Ground Layer < 1 m in height

Herb Layer	Herb Layer Cover
Grass	0
Sedge/Rush	5
Fern	4
Forb	6
Shrub	3
Brush	3
Moss	0
Leaf	7
Bare	2
Rock	0

Dom. Ground Spp.	% cover
VICRAC	4
Solida	3

Grass-dominated Areas Only

Avg. Robel Pole:		cm
	N	
	S	
	E	
	W	

Cover Classes
1
0-2%
2
>2-5%
3
>5-12%
4
>12-25%
5
>25-50%
6
>50-75%
7
>75-100%

Observers : Allison Briggaman and Kim Tuttle **Phone:** (603) 271-2461 **Date:** 7/2/2003

Point ID: WARB 8-1 **Town:** Newmarket

Canopy Layer > 6 m in height

Avg Can Ht (m)	Canopy Cover	Dom Spp	% dom	Co-Dom Spp	% dom
5	2				

DBH (cm) & Basal Area (sq. cm) of Trees > 10 cm DBH

Species	Species	Species	Species	Species	Species	Species
DBH / BA	DBH / BA	DBH / BA	DBH / BA	DBH / BA	DBH / BA	DBH / BA

BA Sum: _____ BA Sum: _____ BA Sum: _____ BA Sum: _____ BA Sum: _____ BA Sum:_____ BA Sum:_____

BA of Plot (sum of all spp./10,000 = _____ sq. m/plot)

BA per Ha (BA of plot x 25 = _____ sq. m/ha)

Shrub Layer 1-6 m in height

Avg Shrub Ht (m)	Shrub Layer Cover
4	5

Dom. Shrub Spp.	% cover
ALRUGO	7
PISTRO	3

Ground Layer < 1 m in height

Herb Layer	Herb Layer Cover
Grass	6
Sedge/Rush	3
Fern	0
Forb	5
Shrub	3
Brush	1
Moss	0
Leaf	6
Bare	0
Rock	0

Dom. Ground Spp.	% cover
Poacea	6
Solida	4
Carex	3

Grass-dominated Areas Only

Avg. Robel Pole:		cm
11	N	55
8	S	40
15	E	75
11	W	55

Cover Classes
1
0-2%
2
>2-5%
3
>5-12%
4
>12-25%
5
>25-50%
6
>50-75%
7
>75-100%

Observers : Allison Briggaman and Kim Tuttle **Phone:** (603) 271-2461 **Date:** 7/2/2003

Point ID: WARB 8-2 **Town:** Newmarket

Canopy Layer > 6 m in height

Avg Can Ht (m)	Canopy Cover	Dom Spp	% dom	Co-Dom Spp	% dom

DBH (cm) & Basal Area (sq. cm) of Trees > 10 cm DBH

Species	Species	Species	Species	Species	Species	Species
DBH / BA	DBH / BA	DBH / BA	DBH / BA	DBH / BA	DBH / BA	DBH / BA

BA Sum: _____ BA Sum: _____ BA Sum: _____ BA Sum: _____ BA Sum: _____ BA Sum:_____ BA Sum:_____

BA of Plot (sum of all spp./10,000 = _____ sq. m/plot)

BA per Ha (BA of plot x 25 = _____ sq. m/ha)

Shrub Layer 1-6 m in height

Avg Shrub Ht (m)	Shrub Layer Cover
2	6

Dom. Shrub Spp.	% cover
ALRUGO	7

Ground Layer < 1 m in height

Herb Layer	Herb Layer Cover
Grass	1
Sedge/Rush	7
Fern	0
Forb	3
Shrub	6
Brush	0
Moss	2
Leaf	7
Bare	0
Rock	0

Dom. Ground Spp.	% cover
Carex	7

Grass-dominated Areas Only

Avg. Robel Pole:		cm
	N	
	S	
	E	
	W	

Cover Classes
1
0-2%
2
>2-5%
3
>5-12%
4
>12-25%
5
>25-50%
6
>50-75%
7
>75-100%

Observers : Allison Briggaman and Fred Pinch **Phone:** (603) 271-2461 **Date:** 6/17/2003

Point ID: WARB 10-1 **Town:** Epping

Canopy Layer > 6 m in height

Avg Can Ht (m)	Canopy Cover	Dom Spp	% dom	Co-Dom Spp	% dom

DBH (cm) & Basal Area (sq. cm) of Trees > 10 cm DBH

Species	Species	Species	Species	Species	Species	Species
DBH / BA	DBH / BA	DBH / BA	DBH / BA	DBH / BA	DBH / BA	DBH / BA

BA Sum: _____ BA Sum: _____ BA Sum: _____ BA Sum: _____ BA Sum: _____ BA Sum:_____ BA Sum:_____

BA of Plot (sum of all spp./10,000 = _____ sq. m/plot)

BA per Ha (BA of plot x 25 = _____ sq. m/ha)

Shrub Layer 1-6 m in height

Avg Shrub Ht (m)	Shrub Layer Cover
4.5	6

Dom. Shrub Spp.	% cover
BEPOPU	5
PISTRO	5
POTREM	2
ACSACC	2
ACRUBR	1
RHTYPH	3

Grass-dominated Areas Only

Avg. Robel Pole:		cm
	N	
	S	
	E	
	W	

Ground Layer < 1 m in height

Herb Layer	Herb Layer Cover
Grass	0
Sedge/Rush	1
Fern	5
Forb	6
Shrub	4
Brush	0
Moss	0
Leaf	4
Bare	0
Rock	0

Dom. Ground Spp.	% cover
COPERE	6
TORADI	4
Rubus	4

Cover Classes
1
0-2%
2
>2-5%
3
>5-12%
4
>12-25%
5
>25-50%
6
>50-75%
7
>75-100%

Observers : Allison Briggaman and Fred Pinch **Phone:** (603) 271-2461 **Date:** 6/17/2003

Point ID: WARB 10-2 **Town:** Epping

Canopy Layer > 6 m in height

Avg Can Ht (m)	Canopy Cover	Dom Spp	% dom	Co-Dom Spp	% dom
11.5	4	BEPOPU	60		

DBH (cm) & Basal Area (sq. cm) of Trees > 10 cm DBH

Species	Species	Species	Species	Species	Species	Species
DBH / BA	DBH / BA	DBH / BA	DBH / BA	DBH / BA	DBH / BA	DBH / BA

BA Sum: _____ BA Sum: _____ BA Sum: _____ BA Sum: _____ BA Sum: _____ BA Sum:_____ BA Sum:_____

BA of Plot (sum of all spp./10,000 = _____ sq. m/plot)

BA per Ha (BA of plot x 25 = _____ sq. m/ha)

Shrub Layer 1-6 m in height

Avg Shrub Ht (m)	Shrub Layer Cover
3	7

Dom. Shrub Spp.	% cover
BEPOPU	5
POTREM	5
ACRUBR	3

Ground Layer < 1 m in height

Herb Layer	Herb Layer Cover
Grass	0
Sedge/Rush	5
Fern	5
Forb	6
Shrub	0
Brush	0
Moss	2
Leaf	7
Bare	3
Rock	1

Dom. Ground Spp.	% cover
Carex	7
Solida	6
UNFERN	5

Cover Classes
1
0-2%
2
>2-5%
3
>5-12%
4
>12-25%
5
>25-50%
6
>50-75%
7
>75-100%

Grass-dominated Areas Only

Avg. Robel Pole:		cm
	N	
	S	
	E	
	W	

Observers : Allison Briggaman and Fred Pinch **Phone:** (603) 271-2461 **Date:** 6/18/2003

Point ID: WARB 14-1 **Town:** Epping

Canopy Layer > 6 m in height

Avg Can Ht (m)	Canopy Cover	Dom Spp	% dom	Co-Dom Spp	% dom

DBH (cm) & Basal Area (sq. cm) of Trees > 10 cm DBH

Species	Species	Species	Species	Species	Species	Species
DBH / BA	DBH / BA	DBH / BA	DBH / BA	DBH / BA	DBH / BA	DBH / BA

BA Sum: _____ BA Sum: _____ BA Sum: _____ BA Sum: _____ BA Sum: _____ BA Sum:_____ BA Sum:_____

BA of Plot (sum of all spp./10,000 = _____ sq. m/plot)

BA per Ha (BA of plot x 25 = _____ sq. m/ha)

Shrub Layer 1-6 m in height

Avg Shrub Ht (m)	Shrub Layer Cover
3	7

Dom. Shrub Spp.	% cover
SPTOME	5
PISTRO	5
Rubus	4
BEPOPU	3

Ground Layer < 1 m in height

Herb Layer	Herb Layer Cover
Grass	7
Sedge/Rush	1
Fern	6
Forb	3
Shrub	6
Brush	1
Moss	1
Leaf	1
Bare	0
Rock	1

Dom. Ground Spp.	% cover
Poacea	7
UNFERN	6
Rubus	5

Grass-dominated Areas Only

Avg. Robel Pole:		cm
	N	
	S	
	E	
	W	

Cover Classes
1
0-2%
2
>2-5%
3
>5-12%
4
>12-25%
5
>25-50%
6
>50-75%
7
>75-100%

Observers : Allison Briggaman and Fred Pinch **Phone:** (603) 271-2461 **Date:** 6/18/2003

Point ID: WARB 17-1 **Town:** Raymond

Canopy Layer > 6 m in height

Avg Can Ht (m)	Canopy Cover	Dom Spp	% dom	Co-Dom Spp	% dom
7.75	7	PISTRO	90		

DBH (cm) & Basal Area (sq. cm) of Trees > 10 cm DBH

Species	Species	Species	Species	Species	Species	Species
PISTRO	PISTRO	PISTRO	JUVIRG			
DBH / BA	**DBH / BA**	**DBH / BA**	**DBH / BA**	**DBH / BA**	**DBH / BA**	**DBH / BA**
16.5/213.85	13.0/132.75	14.0/153.96	11.5/103.88			
14.5/165.15	25.0/490.94					
10.5/86.60	10.0/78.55					
16.0/201.09	11.5/103.88					
14.5/165.15	13.5/143.16					
10.0/78.55	15.0/176.74					
11.0/95.05	14.0/153.96					
17.0/227.01	11.0/95.05					

BA Sum: 2761.44 **BA Sum: 103.88** **BA Sum: _____** **BA Sum:_____** **BA Sum:_____**

BA of Plot (sum of all spp./10,000 = 0.29 sq. m/plot)

BA per Ha (BA of plot x 25 = 7.16 sq. m/ha)

Shrub Layer 1-6 m in height

Avg Shrub Ht (m)	Shrub Layer Cover
3.5	2

Dom. Shrub Spp.	% cover
ULAMER	2
POTREM	2
ELUMBE	1

Ground Layer < 1 m in height

Herb Layer	Herb Layer Cover
Grass	6
Sedge/Rush	5
Fern	3
Forb	3
Shrub	3
Brush	0
Moss	0
Leaf	6
Bare	0
Rock	0

Dom. Ground Spp.	% cover
Poacea	5
Carex	4

Grass-dominated Areas Only

Avg. Robel Pole:		cm
0	N	0
9	S	45
0	E	0
7.5	W	37

Cover Classes
1
0-2%
2
>2-5%
3
>5-12%
4
>12-25%
5
>25-50%
6
>50-75%
7
>75-100%

Observers: James Oehler and Fred Pinch **Phone:** (603) 271-2461 **Date:** 6/24/2003

Point ID: WARB 18-1 **Town:** Candia

Canopy Layer > 6 m in height

Avg Can Ht (m)	Canopy Cover	Dom Spp	% dom	Co-Dom Spp	% dom
12	3	BEALLE	80		

DBH (cm) & Basal Area (sq. cm) of Trees > 10 cm DBH

Species	Species	Species	Species	Species	Species	Species
BEALLE	PISTRO					
DBH / BA	**DBH / BA**	**DBH / BA**	**DBH / BA**	**DBH / BA**	**DBH / BA**	**DBH / BA**
16.0/201.09	13.0/132.75					
15.5/188.72						
16.0/201.09						

BA Sum: 590.90 **BA Sum: 132.75** **BA Sum: _____** **BA Sum:_____** **BA Sum:_____** **BA Sum:_____** **BA Sum:_____**

BA of Plot (sum of all spp./10,000 = 0.07 sq. m/plot)

BA per Ha (BA of plot x 25 = 1.81 sq. m/ha)

Shrub Layer 1-6 m in height

Avg Shrub Ht (m)	Shrub Layer Cover
2	6

Dom. Shrub Spp.	% cover
PTAQUI	5
VACORY	4
ACRUBR	4
BEALLE	2

Ground Layer < 1 m in height

Herb Layer	Herb Layer Cover
Grass	0
Sedge/Rush	1
Fern	3
Forb	6
Shrub	3
Brush	3
Moss	1
Leaf	5
Bare	0
Rock	1

Dom. Ground Spp.	% cover
Fraxin	5
UNFERN	3
RUALLE	2
GAPROC	2
POTREM	1
ACRUBR	1

Grass-dominated Areas Only

Avg. Robel Pole:		cm
	N	
	S	
	E	
	W	

Cover Classes
1
0-2%
2
>2-5%
3
>5-12%
4
>12-25%
5
>25-50%
6
>50-75%
7
>75-100%

Observers: James Oehler and Fred Pinch **Phone:** (603) 271-2461 **Date:** 6/24/2003

Point ID: WARB 18-2 **Town:** Candia

Canopy Layer > 6 m in height

Avg Can Ht (m)	Canopy Cover	Dom Spp	% dom	Co-Dom Spp	% dom
12	1	BEALLE	100		

DBH (cm) & Basal Area (sq. cm) of Trees > 10 cm DBH

Species	Species	Species	Species	Species	Species	Species
BEALLE						
DBH / BA	**DBH / BA**	**DBH / BA**	**DBH / BA**	**DBH / BA**	**DBH / BA**	**DBH / BA**
16.5/213.85						

BA Sum: 213.85 **BA Sum: _____** **BA Sum: _____** **BA Sum:_____** **BA Sum:_____** **BA Sum:_____** **BA Sum:_____**

BA of Plot (sum of all spp./10,000 = 0.02 sq. m/plot)

BA per Ha (BA of plot x 25 = 0.53 sq. m/ha)

Shrub Layer 1-6 m in height

Avg Shrub Ht (m)	Shrub Layer Cover
2.5	6

Dom. Shrub Spp.	% cover
PTAQUI	5
BEALLE	3
VACORY	2
PISTRO	2
ACRUBR	1

Ground Layer < 1 m in height

Herb Layer	Herb Layer Cover
Grass	2
Sedge/Rush	4
Fern	4
Forb	5
Shrub	3
Brush	3
Moss	1
Leaf	5
Bare	0
Rock	1

Dom. Ground Spp.	% cover
PTAQUI	4
Carex	4
GAPROC	3
Vaccin	2
Fraxin	2

Grass-dominated Areas Only

Avg. Robel Pole:		cm
	N	
	S	
	E	
	W	

Cover Classes
1
0-2%
2
>2-5%
3
>5-12%
4
>12-25%
5
>25-50%
6
>50-75%
7
>75-100%

Appendix E:

Habitat Description Tables
(presented in the following order):

American woodcock
Whip-poor-will
Blue-winged & Golden-winged warblers
Wetland birds
Grassland birds

Table 1. Habitat patch descriptions for American woodcock.

PolyID	Town	Hectares	Habitat Code	% Comp	Suitable Habitat*	Species Observed
AMWO 1	Durham	2.28	SS M MXSW-2 HE-2	25% 25% 25% 25%	Y-Veg	N
Notes:	SS – Great diversity in small area, >75% shrubs in high understory M – Sparse canopy <10% with a lot of sedges and forbs MXSW-2 – Primarily red maple and white pine but a lot of sedges and forbs in understory HE-2 – Hemlock stand surrounding wetlands					
AMWO 2	Durham	3.57	ES CH-3 WP-3	30% 60% 10%	Y-Veg	Y-AMWO
Notes:	ES – Alder dominated, seasonally wet, surrounded mostly by CH stand – nicely managed with good economic potential					
AMWO 3	Lee	2.19	DM WP-3	90% 10%	Y-Desc	N
Notes:	Young red maple around edge of deep marsh swamp, standing deadwood scattered throughout swamp, primarily white pine on south boundary with some hemlock and a few scattered oaks.					
AMWO 5	Lee	6.41	WP-3	100%	N	N
Notes:	Point occurred in middle of horse paddock – no understory or ground cover – bare dirt with scattered tall white pines. Mature white pine/hemlock stand and a wetland to the North/Northeast.					
AMWO 6	Durham	2.45	MHS-1	100%	Y	Y-AMWO
Notes:	Mostly oak and red maple saplings with a few scattered sawtimber white pine					
AMWO 7	Lee	2.35	CH-2	100%	N	N
Notes:	Mostly oak and some hickory throughout. Not as much white pine throughout compared to vegetation plot.					
AMWO 8	Newmarket	3.23	NHS-2	100%	Y-Veg	Y-WHWI
Notes:	Primarily blueberry shrubs with some alder. Mature red maple primarily makes up canopy.					
AMWO 9	Newfields	2.17	MXSW DM	90% 10%	Y-Desc	N

Notes:	Beaver swamp/sedge swamp with scattered cattails and snags. Swamp surrounded by dense shrub layer, primarily honeysuckle/vibernum species. Also, mature red cedar and white pine.					
PolyID	**Town**	**Acres**	**Habitat Code**	**% Comp**	**Suitable Habitat***	**Species Observed**
AMWO 10	Epping	4.90	SS	100%	Y-Desc	Y-WHWI
Notes:	Very dense alders along edge of Piscassic River. Active beaver dam and lodges along river.					
AMWO 11	Epping	3.97	SS	100%	Y	Y-AMWO
Notes:	Very dense alders along edge of Piscassic River. Active beaver dam and lodges along river.					
AMWO 12	Exeter	6.07	MHS-2	100%	Y-Veg	N
Notes:	Primarily red maple and white pine with a few oaks. Lots of blueberry in understory and deer trails throughout. The area is high quality game habitat, i.e. moose, deer, woodcock, and grouse. Lot currently is up for sale and surrounding area is under development.					
AMWO 13	Raymond	2.07	NH-1	100%	Y-Desc	N
Notes:	N/A					
AMWO 14	Raymond	2.63	CHS-3 MHS-2	60% 40%	N	N
Notes:	Softwood component primarily hemlock					
AMWO 15	Brentwood	2.38	NHS-2	100%	Y-Veg	N
Notes:	Red maple and white pine. 80% of polygon is seasonally wet					
AMWO 16	Fremont	2.15	WP-3	100%	Y-Veg	N
Notes:	A few large oaks scattered throughout but not enough to make 40%. Lots of red maples in sub-canopy.					

* Habitat suitability based on presence of species (Y), quantitative vegetation surveys (Y-Veg), or habitat descriptions (Y-Desc).

Table 2. Habitat patch descriptions for Whip-poor-will.

.

PolyID	Town	Hectares	Habitat Code	% Comp	Suitable Habitat	Species Observed
WHWI 1	Durham	3.86	MH-2	100%	Undertermined	N
Notes:	Mostly hardwoods (red oak/white oak) with scattered white pine. Small brook running through with some ferns and shrubs along edges.					
WHWI 2	Lee	7.37	MHS-2	100%	Undetermined	N
Notes:	N/A					
WHWI 3	Lee	7.33	MHS-2 MH-2	65% 35%	Undetermined	N
Notes:	N/A					
WHWI 4	Lee	5.47	MHS-2	100%	Undetermined	N
Notes:	N/A					
WHWI 5	Lee	3.05	MH-2	100%	Undetermined	N
Notes:	This polygon is at the corner of Lee Hook Rd and Little Hook Rd. There is a large stand of mixed hardwoods that borders some houses. The houses have mowed lawns with planted trees and shrubs.					
WHWI 6	Durham	3.64	WP-3	100%	Undetermined	N
Notes:	White pine and pitch pine stand. Selective cut done approximately 5-10 years ago.					
WHWI 15	Nottingham	8.74	MH-1	100%	Undetermined	N
Notes:	Harvested within past 8-15 years with scattered pole size retention.					

Table 3. Habitat patch descriptions for Blue-winged and Golden-winged warblers.

PolyID	Town	Hectares	Habitat Code	% Comp	Suitable Habitat Y/N	Species Observed Y/N
WARB 3	Newmarket	19.86	OF	100%	Y	Y-BWWA
Notes:	N/A					
WARB 7	Lee	15.56	POW NHS OF	5% 70% 30%	Y	Y-BWWA
Notes:	N/A					
WARB 8	Newmarket	11.49	SS DM	75% 25%	Y	Y-BWWA
Notes:	Tuttle Swamp – areas with deep water with emergent vegetation surrounded by scrub/shrub which is dominated by speckled alder. Wet year round but some areas dry during summer.					
WARB 10	Epping	14.83	OF OF/ES	50% 50%	Y	Y-BWWA
Notes:	Old field with less than 50% tree/shrub cover and early successional areas with 50-100% cover.					
WARB 14	Epping	11.24	OF	100%	Y-Desc	N
Notes:	N/A					
WARB 17	Raymond	4.71	NHS OF	40% 60%	N	N
Notes:	N/A					
WARB 18	Candia	7.99	DL	100%	N	N
Notes:	Harvested area, less than 25% canopy remaining. MHS-2 remain and consist of hemlock, white pine, yellow birch, red maple, and white oak.					

* Habitat suitability based on presence of species (Y), quantitative vegetation surveys (Y-Veg), or habitat descriptions (Y-Desc).

Table 4. Habitat patch descriptions for wetland birds.

PolyID	Town	Hectares	Habitat Code	% Comp	Suitable Habitat*	Species Observed
WTBD 2	Raymond	17.83	ROW M WA	10% 70% 20%	Y - AMBI	N
Notes:	Powerline with brook running through it. Blueberry, raspberry, meadowsweet, laurel and young birches, poplars, and alders border wet meadow filled with sedges and scattered cattails. Channel of open water winds through emergent vegetation.					
WTBD 3	Raymond	9.96	DM WA	55% 45%	Y - AMBI Y - LEBI Y - SORA Y - COMO Y - SEWR	N
Notes:	Shallow water thick with lily pads and pickerelweed in the middle and cattails bordering the edges. Shallow open water with scattered lily pads and pickerelweed.					
WTBD 4	Raymond	7.81	DM	100%	N	N
Notes:	No open water. Old beaver pond now mostly a meadow, thick cattails, sedges etc. with stand of phragmites at north end.					
WTBD 6	Epping	8.43	DM	100%	Y - AMBI Y - LEBI Y - SORA Y - COMO Y - SEWR	N
Notes:	Cattails and sedges with a couple of phragmites patches					
WTBD 7	Raymond	8.22	DM	100%	Y - AMBI Y - LEBI Y - SORA Y - COMO Y - SEWR	N
Notes:	Deep marsh with a few scattered shrubs					
WTBD 8	Epping/ Raymond	4.24	DM WA	90% 10%	Y - AMBI Y - LEBI Y - SORA Y - COMO Y - SEWR	N
Notes:	Cattail and sedge dominated with a few red maple saplings and alder around the edges. Point 8-2 was on an active beaver dam					
WTBD 10	Epping	4.98	SS	100%	N	N
Notes:	Beaver swamp near route 101					

PolyID	Town	Hectares	Habitat Code	% Comp	Suitable Habitat*	Species Observed
WTBD 11	Epping	18.70	M WA	80% 20%	Y - AMBI Y - SORA Y - COMO Y - SEWR	N
Notes:	Dominated by reed canary grass and purple loosestrife					
WTBD 12	Epping/ Brentwood	8.37	DM WA	90% 10%	Y - AMBI Y - LEBI Y - SORA Y - COMO Y - SEWR	N
Notes:	Deep marsh dominated by cattails with about 10% of area open water					
WTBD 13	Exeter	5.36	DM WA	80% 20%	N	N
Notes:	Deep marsh dominated by cattails with about 20% of area open water					
WTBD 14	Newfields	5.04	SS M	80% 20%	N	N
Notes:	N/A					
WTBD 15	Lee	3.63	M WA DM	20% 70% 10%	N	N
Notes:	N/A					
WTBD 16	Durham	8.73	DM M WA	10% 15% 75%	N	N
Notes:	Foss Farm – Edge of deep marsh, cattail, much less open water now – drier conditions					
WTBD 17	Newfields	4.41	DM WA	95% 5%	N	N
Notes:	Cattail marsh					

* Habitat suitability based solely on habitat patch description as no surveys recorded the presence of any of the wetland birds, and quantitative habitat surveys were not completed. If a habitat patch was deemed suitable the species that it is suitable for is indicated using the International Ornithologist Union's bird code.

Table 5. Habitat patch descriptions for grassland birds.

PolyID	Town	Hectares	Habitat Code	% Comp	Suitable Habitat	Species Observed
GRBD 4	Durham	34.86	F	100%	Y	N
Notes:	Approximately 50% of area cut within past week. Therefore, no vegetation surveys done.					
GRBD 8	Fremont	28.73	F	100%	Y	N
Notes:	Fields used for rotating bulls. Fields are overgrazed pastures (75%) and hayfields (25%) No vegetation plots were done.					

* Habitat suitability based on presence of species (Y), quantitative vegetation surveys (Y-Veg), or habitat descriptions (Y-Desc).